

From: [Craske, Alice](#)
To: [A47-A11 Thickthorn](#)
Cc: [Cumming, David](#); [Faulkner, Stephen](#); [Alfrey, David](#)
Subject: NCC Thickthorn - Written Representation
Date: 01 September 2021 15:43:03
Attachments: [image012.png](#)
[image013.png](#)
[image014.png](#)
[NCC Summary A47 A11 Thickthorn Junction.pdf](#)
[NCC Thickthorn Written Representation.pdf](#)

Dear Sir / Madam,

Please find attached Norfolk County Council's written representation submission for the above DCO. As the written representation is over 1500 words, we have attached a summary as requested.

We note that, in their representations to the application for a development consent order for dualling the A47 North Tuddenham to Easton (TR010038), a number of parties have referred to comments submitted by the county council on the A47/A11 Thickthorn Junction DCO application (TR010037) in relation to bats. I would like to take this opportunity to make it clear that the council has not submitted these comments as representations to the Planning Inspectorate.

In June, Members agreed support for both projects, and agreed representations on a number of detailed issues. We subsequently submitted a summary of the comments agreed by Members as our relevant representation on the A47 Thickthorn application. More recently, Members have agreed an updated representation on the North Tuddenham to Easton and Thickthorn projects, in particular correcting a small number of factual errors concerning bats that had been reported to members in June in relation to the Thickthorn application.

We are submitting written representations today, 1 September, on both the North Tuddenham to Easton and Thickthorn applications. As stated, the representation on Thickthorn forms the only detailed comments that the county council has made to the Planning Inspectorate on this project, correcting factual errors included in a report to Norfolk County Council Members in June. The Planning Inspectorate is asked to note that a number of representations made by other parties on the A47 North Tuddenham to Easton application refer to comments reported to council members, but which have not been submitted as a representation by the county council, and which have now been corrected. The comments submitted by the county council are as per the written representations submitted today.

Please find [here](#) a link to the Members of the Planning and Highways Delegation Committee report, which Members agreed, which details the corrections made.

Best wishes,
Alice

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Norfolk County Council

Norfolk County Council

Written Representation

A47 / A11 Thickthorn Junction – submitted Development
Consent Order Application

Identification No. TR010037

Registration identification number: 20028389

Evidence by David Cumming
Strategic Transport Team Manager

August 2021

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Appendix A – Location Map showing the proposed scheme plan

Norfolk County Council – Written Representations

A47 / A11 Thickthorn Junction – submitted application

August 2021

1. Introduction

- 1.1. This report sets out Norfolk County Council's position with regard to the submitted Development Consent Order (DCO) application made under section 56 of the Planning Act (2008).
- 1.2. The County Council is a statutory consultee given that the proposed development is a Nationally Significant Infrastructure Project (NSIP) under the above Act and is located:

At Thickthorn Junction, comprising a new free-flowing connector road between the A11 northbound and the A47 eastbound (ie to connect the two trunk roads directly for traffic travelling from the London to Gt Yarmouth directions). (See Appendix 1, location plan)
- 1.3. The principal role of the County Council in responding to the above proposed dualling application, is in respect of the Authority's statutory role as:
 - Highways Authority;
 - Minerals and Waste Planning Authority;
 - Lead Local Flood Authority; and
 - Public Health responsibilities.
- 1.4. In addition, the County Council have an advisory environmental role and economic development function, which has also fed into the response to the DCO application.
- 1.5. The issues raised below simply relate the County Council's statutory and advisory functions.

2. Background

- 2.1. This is a Development Consent Order (DCO) application for upgrading the existing A47 / A11 Thickthorn Junction, which will be determined by the Secretary of State. The application is defined as a Nationally Significant Infrastructure Project (NSIP) under the Planning Act 2008.

- 2.2. The pre-application version of this proposal was signed off by the Cabinet Member in July 2019. Members supported the principle of the proposed junction improvements subject to a number of detailed issues and comments being resolved with Highways England.

3. The Proposal – Development Consent Order Application

- 3.1. The County Council has assessed the proposal on the following basis:
- 3.2. The proposal comprises a new free-flowing connector road between the A11 northbound and the A47 eastbound (ie to connect the two trunk roads directly for traffic travelling from the London to Gt Yarmouth directions). This is one of the main movements through the junction and will therefore remove a considerable amount of traffic. The new connector road will re-route traffic away from the junction via a new underpass. The existing footbridge over the A47, east of the existing junction, will be removed and a new footbridge for walkers, cyclists and horse riders will be provided.

3.3. New / amended junctions comprise:

- A single-lane free-flowing road connecting the A11 northbound to A47 eastbound via two underpasses
- Widening the southern section of the Thickthorn roundabout from three lanes to four
- A new, segregated slip road for traffic travelling on the A47 from the Gt Yarmouth direction to the A11 London-bound
- Removal of the Cantley Lane South direct connections between the A11 and A47 exit slip roads
- A new link road connecting Cantley Lane South with the B1172 Norwich Road to the north and construction of two new bridges. The new link road will have a 40mph speed limit
- From the Thickthorn junction to Hethersett, a 40mph speed limit will be implemented on the B1172 Norwich Road and a new junction connecting to Cantley Lane Link road
- Improvements will be provided to the junction of Station Lane (north of the A11) and the A11 northbound
- A new junction will be provided connecting Cantley Lane South to Cantley Lane link road

New walking, cycling and horse-riding amenity:

- A new bridge over the A47 for walkers, cyclists and horse riders approximately 45m east of the existing footbridge (which will be demolished). The bridge will have higher railings to help improve safety for horse riders
- Paths for walking and cycling proposed along the new Cantley Lane link road providing access to local amenities and links to other recreational routes
- Access to the Park and Ride from the Cantley Lane link road for walkers and cyclist

Other details include:

- New traffic lights on the approach to and from the junction with the B1172 Norwich Road (ie this leg of the junction will be brought under signal control as per all of the other legs currently)
- New road signs and road markings throughout the junction
- a 30mph speed limit will be implemented on Cantley Lane South
The existing Cantley Stream and access track will be realigned, and one new stream culvert constructed.

4. Local Impacts

4.1. This section of the report assesses the Environmental Statement (ES) and other supporting documentation in respect of the County Council's key functions and sets out the Authority's proposed response / comments.

4.2. Overview

In summary, the proposal is to upgrade the existing Thickthorn Junction by providing a new free-flowing connector road between the A11 northbound and the A47 eastbound. The new connector road will re-route traffic away from the junction and flow it under via a new underpass.

Highways England is bringing forward major road improvements in addition to Thickthorn Junction, including proposals to dual Blofield to North Burlingham, Easton to North Tuddenham, and improvements – yet to be devised – at Vauxhall and Harfreys junctions in Great Yarmouth.

4.2.1. Comments

The principle of upgrading the Thickthorn Junction is fully supported. The junction is a well-known congestion area and improving traffic flow will reduce journey times and increase safety and resilience. The need to upgrade the junction was established in the Greater Norwich City Deal that identified a programme of infrastructure required to support the growth plans of the area. The delivery of the Thickthorn improvement is a significant investment in our infrastructure programme and is a major element of infrastructure required to enable planned growth.

4.3. Highways Impacts

4.3.1. The highway impacts of the A47/A11 Thickthorn Junction scheme are set out in Development Consent Order (DCO) document 7.1 Case for the Scheme.

4.3.2. With regard for the need for the scheme this document notes that "The feasibility study identified the A47/A11 Thickthorn Junction as operating over capacity on a number of approaches and that the situation will get worse with traffic growth." The DCO report sets out the traffic impact of the improvement scheme on the

existing junction and the predicted traffic flows on new road links that the scheme provides.

- 4.3.3 From the report it is clear that the scheme provides relief to the existing at grade signalised roundabout by removing the dominant movement from the A11 in the south to the A47 in the east and vice versa. These movements are diverted onto two new one-way road links, each of which is predicted to carry about 10,000 vehicles a day when the scheme opens rising to over 12,000 a day in 2040.
- 4.3.4. The rather compromised existing access arrangement to Cantley Lane South, which is from a tight slip road off the existing Thickthorn roundabout, and egress onto an existing off slip road is removed by the scheme. In order to access Cantley Lane South with the new arrangement, a new link from Hethersett Lane (B1172) is provided which incorporates a road bridge over the A11. This new road link is predicted to carry some 900 vehicles a day when the improvement scheme is opened.
- 4.3.5. The NATS Saturn Model was used as well as a microsimulation model. Base surveys were undertaken in 2015, 2016 (for the Saturn Model) and 2019 for the microsimulation. The county council is unsure if any growth factors were applied to Background traffic as this is not mentioned and there is an assumption that growth was incorporated into the NATS model.

The NATS model forecasts that in 2025 there will be an approx. increase in peak hour traffic of 14% and that increases to 25% in 2040. This is a substantial increase which is primarily attributable to growth in the NATS policy area and specifically around Wymondham, Hethersett and Cringleford. Without the proposed scheme the existing capacity issues will be significantly exacerbated.

The Transport Case mentions removing the bus lane on the B1172 approach to the roundabout. However, it is concluded that removing the bus lane will have very limited benefit in 2025 so it is proposed to revisit this once the scheme is opened.

Modelling of the B1172/MacDonald's roundabout (including the P&R extension) shows that in 2040 with the scheme open, the roundabout operates below capacity.

Whilst some walking links are removed, others are enhanced, and a new overbridge is provided to connect Cantley Lane and Cantley Lane South. This will also be a bridleway which will lead to the removal of the Pegasus facilities that currently exist (crossing the slip roads on the A47 on the eastbound approach to the junction).

The Transport Case summarises that in terms of journey time reliability, benefits will be introduced as capacity is increased, delays are shortened, and accidents are reduced. The scheme will provide additional capacity which will improve travel times, support housing and economic growth and provide additional

capacity to support strategic growth linking Norwich to Peterborough and Cambridge.

4.3.6. The only approach which doesn't benefit from the A47/A11 Thickthorn Junction scheme is the A11 approach from Norwich.

4.3.7. **Comments**

The Development Consent Order (DCO) document 7.1 Case for the Scheme, sets out projected changes to traffic patterns of the A47/A11 Thickthorn Junction scheme. There does not appear to be anything within the case that would lead to the local highway authority having any concerns over the proposed scheme. Therefore, the county council is recommending no objection.

Based on the assessment, it appears that the predicted traffic growth will make the A11 approach from Norwich the worst performing arm in the future in terms of capacity and delay. This appears to be exacerbated by the enhanced throughput of the junction which gives rise to additional traffic on this approach. The county council would want to discuss this issue in more detail with Highways England to see if anything could be done at this location as part of the scheme to minimise this effect.

4.4. **Detrunking**

The scheme includes proposals that, on completion of the scheme, would not form part of the trunk road network, but would become the responsibility of the county council. Chief amongst these is the proposed new link from Cantley Lane South to the B1172, comprising a major structure over the A11 as well as a stretch of new road. This is proposed as a B class road. This is not considered appropriate. We have previously voiced concerns to Highways England about this link road encouraging more west-to-east movements between Hethersett and Mulbarton, as have local parish councils. Cantley Lane South is currently effectively a single lane track with passing bays along it, predominantly used by northbound traffic. Highways England's modelling shows only minimal increase in traffic on Cantley Lane South. However, classifying the road as a B road is likely to indicate to traffic that that this is a through route and encourage further traffic, which would not be appropriate.

Whilst the county council would receive additional maintenance funding through the national grant agreement formula (due to the additional road length being maintained) this is not likely to be of any significance. It would not be sufficient to bring roads or structures up to standard (if they require this). To date we have not been provided with data indicating what assets might require attention in the short to medium term.

(The new underpasses connecting the A11 to the A47 would form part of the trunk road network.)

4.4.1. **Comments**

No agreement has been made to accept any current Highways England assets and we will not do so until an agreement process including exchange of data and provision of funding regarding assets which may require attention in the short to medium term has been completed.

The agreement should be based on the condition and number of the assets to generate either a sum of funding to be transferred to Norfolk County Council, or the asset brought up to an as new or good condition. The county council would expect to receive a commuted sum, agreed with Highways England, for future maintenance of transferred assets.

- 4.4.2. The county council does not support classification of the new link from Cantley Lane South to the B1172 as a B class road. Cantley Lane South is currently effectively a single lane track with passing bays along it, predominantly used by northbound traffic. Classifying the road as a B road is likely to indicate to traffic that that this is a through route and encourage further traffic, which would not be appropriate.

We would want to have further discussions with Highways England on the classification of this link and on the detail of the destinations signed along it from the B1172 Hethersett Road.

4.5. **Socio-Economic Issues**

There are potentially significant economic benefits arising from the dualling proposal in terms of:

- Local employment creation
- Business sectors affected by construction
- Productivity benefits to businesses, and other wider economic benefits, arising from upgrading the junction
- Making journeys safer and more reliable

4.5.1. **Comments**

The county council would certainly want to see opportunities for inclusive growth and social mobility included in the socio-economic opportunities for Norfolk. We would be willing to work with Highways England or the appropriate agency to support this.

The county council will continue to work proactively with Highways England to encourage apprenticeships, work experience and internships being included at an appropriate stage in the project.

- 4.5.2. Productivity and other wider economic benefits will arise from the completed schemes. These include journey time savings and reliability improvements, benefitting businesses. These are to be welcomed.

4.6. **Environmental Issues**

An Environmental Statement (ES) has been prepared to accompany the DCO Application. This sets out a description of the proposed scheme and the reasonable alternatives considered in the development of the design, the environmental setting, potential impacts and the likely significant effects of the Proposed Scheme on local communities and the environment, and the measures proposed to mitigate these effects.

The Environmental Statement: Non-Technical Summary provides a summary of the ES in non-technical language. This section considers each of the issues in the non-technical summary in turn.

4.7. **Air quality**

The assessment concluded that effects will not be significant and that in its operation the scheme is not predicted to affect the UK's ability to comply with the Air Quality directive, which sets exceedance limits for pollutants.

With no significant effects predicted, no mitigation is proposed.

4.7.1. **Comments**

The county council supports improvements to air quality and would want to see continued monitoring including in operation of the scheme following construction.

4.8. **Cultural Heritage**

Cultural heritage includes archaeology, historic buildings / structures and historic landscapes including parks and gardens.

The Environmental Statement: Non-Technical Summary sets out there is the potential for both beneficial and adverse impacts, but that potential adverse impacts have been reduced or eliminated through the design and mitigation.

A designated heritage asset, No.4 grade II listed structure, is located inside the site boundary. Highways England have proposed protection with fencing throughout construction and therefore no impact is predicted.

A scheduled monument is located outside the site boundary 'Two Tumuli in Big Wood'. This site will have significant residual adverse effect as a result of operations from the proposed scheme. The proposal is to remove the last remaining preserved part permanently from the western barrow – the effects will be reduced for the eastern barrow due to thicker vegetation in the area.

It notes positive impacts as being a new viewpoint and information board, to enhance appreciation of cultural heritage.

4.8.1. **Comments**

Arboriculture

The Arboricultural Impact Assessment (AIA), in accordance with BS5837:2012 'Trees in relation to design, demolition and construction, recommendations' submitted by RSK ADAS Ltd, dated February 2021 is fit for purpose (based on the information provided at the time of survey) with regards to assessing existing tree quality and calculating impacts.

The report also gives clear advice with regards to relevant legislation, construction techniques, utility installation and other on-site methodology to mitigate impacts to trees.

However, there are x 5 category A, x 7 category B trees and x 1 category B tree group designated for removal that should be retained should any design changes allow. In addition, 27 tree groups and two woodlands will require partial removal. These include B grade tree groups G9, G10, G11, G13, G14, G21, G22, G23, G27, G38, G88, G89 and B grade woodland W2.

It should be noted that B category trees might only have been downgraded from category A due to an observed impaired condition. They are still of significance and should be retained where possible or compensated adequately for if removal is unavoidable (as recommended in BS5837:2012).

W2 has been described within 6.3 Environmental Statement - Appendix 8.1 Botanical Survey Report as 'a priority habitat and potentially ancient woodland (present since at least 1840).' However, this was not observed within the AIA (potentially because the Ancient Woodland Inventory only records ancient woodlands of over two hectares in size). This needs clarification as it could affect the scheme's design, mitigation and/or compensation due to the national significance of such habitats; explained in further detail below.

With regards to the x 5 category A trees with veteran and/or over-mature/ancient characteristics to be removed (situated within the new Cantley Lane Link Road section of the development), T14 has a stem diameter at breast height of over two metres which is quite exceptional. These trees are open-grown individuals, likely remnants of historic parkland or wood pasture. They have high arboricultural, landscape, conservation and cultural values.

These are irreplaceable habitats with some or all of the following characteristics (as stated in the government guidance note: www.gov.uk/guidance/ancient-woodland-and-veteran-trees-protection-surveys-licences#ancient-and-veteran-trees):

Ancient woodland

Ancient woodland takes hundreds of years to establish and is defined as an irreplaceable habitat. It's important for its:

- Wildlife (which include rare and threatened species)
- Soils
- Recreational value

- Cultural, historical and landscape value.

It's any area that's been wooded continuously since at least 1600 AD. It includes:

- Ancient semi-natural woodland mainly made up of trees and shrubs native to the site, usually arising from natural regeneration
- Plantations on ancient woodland sites - replanted with conifer or broadleaved trees that retain ancient woodland features, such as undisturbed soil, ground flora and fungi.

They have equal protection in the National Planning Policy Framework (NPPF).

Other distinct forms of ancient woodland are:

- Wood pastures identified as ancient
- Historic parkland, which is protected as a heritage asset in the NPPF.

Many of these do not appear on the Ancient Woodland Inventory because their low tree density did not register as woodland on historic maps.

Highways England should give consideration to wood pasture identified as ancient in planning decisions in the same way as other ancient woodland.

'Wooded continuously' does not mean there's been a continuous tree cover across the whole site. Not all trees in the woodland have to be old. Open space, both temporary and permanent, is an important component of ancient woodlands.

Ancient and veteran trees

An ancient tree is exceptionally valuable. Attributes can include its:

- Great age
- Size
- Condition
- Biodiversity value as a result of significant wood decay and the habitat created from the ageing process
- Cultural and heritage value.

Very few trees of any species become ancient.

All ancient trees are veteran trees, but not all veteran trees are ancient. A veteran tree might not be very old, but it has decay features, such as branch death and hollowing. These features contribute to its biodiversity, cultural and heritage value.

The National Planning Policy Framework (NPPF), updated in 2018, includes a provision that "development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons" (paragraph 175c).

It is understood that this development is seeking a Development Consent Order to prove its 'wholly exceptional' status, but it must:

1. Avoid impacts

2. Reduce (mitigate) impacts
3. Compensate as a last resort.

In response to an earlier consultation (noted in document 5.2 Consultation Report Annex M: Table Evidencing Regard had to Statutory Consultation Responses), the Forestry Commission noted the loss of the veteran trees and suggested the felled timber should be moved to adjacent shared green space where 'the material can decay by natural processes and continue to provide natural deadwood habitat'. This prescription provides a degree of mitigation to the overall impact and is supported.

Threats to remaining trees

The AIA has identified that a site compound is shown within the RPA of A grade trees T16, T18, T19, T20, G20, T21, T23, T25; and B grade trees T17, T24 and G26. Should this location not be subject to change, these trees will be under threat from damage such as compaction and pollution. The AIA gives guidance and methodology to avoid and reduce these impacts.

Threats to the health of remaining trees have also been identified with regards to construction of fence lines, change of soil levels, installing utilities and close proximity working.

AIA update

Should the proposals be approved, it should be conditioned (and submitted for approval prior to works commencing) that the AIA will be updated to include:

- Tree Constraints Plan
- Tree Protection Plan
- Arboricultural Method Statement
- Timetable for Implementation of Tree Protection Works.

4.8.2. Environmental Masterplan

The Environmental Masterplan details replanting proposals in a clear visual format but without species detail or quantification. It is not clear at this stage, how planting design has been calculated to ensure adequate replacements for losses incurred will be achieved. This requires clarification.

Trees and woodlands are part of the wider landscape mitigation that will be required and it should be the quality and resilience of the resulting landscape, taking all habitats into account, rather than the number of replacement trees that will dictate whether the mitigation is acceptable. We would expect a minimum 30-year compensation strategy to be submitted, based on a calculation of habitat loss and demonstrating net gain. This strategy would usually include the area surrounding the application boundaries and should consider the following examples:

- Planting of new woodlands, hedgerows with trees, individual and tree groups
- Management plans and schedules to maintain newly planted trees and woodlands

- Connecting woodland and ancient and veteran trees separated by development with green bridges
- Planting individual trees that could become veteran and ancient trees in future
- Management agreements with adjacent landowners to provide or assist with woodland management to improve tree resilience and biodiversity
- Providing management schedules for existing veteran and ancient trees / woodlands nearby
- Extending existing woodland and ancient woodland through natural regeneration / rewilding
- Selective veteranisation of specific trees

4.9. **Landscape**

The Environmental Statement: Non-Technical Summary sets out that during construction, there would be a loss of existing trees and areas of woodland and a change to the existing agricultural land use due to:

- The new slip road between the A11 and A47
- The new Cantley Lane Link road
- Temporary construction compounds and materials storage areas.

During the initial stages of operation, the proposed scheme carriageway, overbridge structures, junction lighting, signage and movement of vehicles along the highway would be visible. The scheme proposes tree planting, retaining / replacing / reinforcing existing vegetation, sourcing plant and grass species specific to the local area and creating a reptile habitat around the Cantley Stream. The tree planting would revert the visibility of the main trunk road proposed to a state comparable to the existing situation. Localised significant visual effects would persist at the residential properties in Cantley Lane South and a slight adverse effect to the landscapes character would persist away from the trunk road elements.

The assessment concludes that the proposed scheme would not result in significant long-term residual effect on visual amenity and landscape as a whole.

4.9.1. **Comments**

The following comments are made from a Landscape perspective and are based on the review of the following documents:

Volume 6 6.1 Environmental Statement:

- Chapter 7 – Landscape and Visual Effects
 - (Please note Chapter 6 Cultural Heritage assessed the effect of the scheme on Thickthorn Hall as a County designated Historic Park and Garden, this has however not been reviewed as part of the Landscape comments, and views should be sought from the Norfolk County Council Historic Environment Team.)
- Chapter 15 – Cumulative Effects Assessment (Please note only elements relevant to Landscape and visual effects have been reviewed)

- Appendix 7.1 – Planning Policy Context
- Appendix 7.2 – ZTV and Verified Photomontage Methodology
- Appendix 7.3 – Landscape Character Areas
- Appendix 7.4 – Visual Receptors
- Appendix 7.5 – Representative Viewpoints
- Appendix 7.6 – Arboriculture Impact Assessment (Please note this has only been reviewed from a Landscape perspective and not in relation to Arboricultural expertise)
- Appendix 7.7 – Lighting Assessment (Please note this has only been reviewed from a Landscape perspective and not in relation to any other expertise)

6.8 Environmental Masterplan:

- TR010037/APP/6.8 (Please note this has been viewed at a strategic level)

Volume 7 7.4 Environmental Management Plan:

- Record of environmental actions and commitments

Documents have been reviewed with their associated figures where possible. Where documents have not been fully reviewed this has been noted, or where documents have not been located or unavailable this has also been noted. No documents outside of those mentioned have been reviewed or considered as part of this response. Please note Chapter 6 Cultural Heritage assessed the effect of the scheme on Thickthorn Hall as a County designated Historic Park and Garden, this has however not been reviewed as part of the Landscape comments, and views should be sought from the Norfolk County Council Historic Environment Team.

The paragraph numbers below refer to Chapter 7 – Landscape and Visual Effects – of the Environmental Assessment.

7.2 Suitable expertise is provided for such an assessment

7.3.2 States that “Retention of veteran, mature or otherwise significant trees, groups of trees or woodland (and where removal is proposed, replacement with those of similar amenity value) (Policy DM 4.8 of the DMPD)”

4.9.2.

Veteran Trees are irreplaceable habitats and form an important part of the cultural and historical landscape, the loss of these trees in the landscape cannot easily be replaced with trees of similar amenity value, by nature of their scale and size, it would take a considerable length of time to achieve anywhere near the same amenity value. (www.gov.uk/guidance/ancient-woodland-and-veteran-trees-protection-surveys-licences#ancient-and-veteran-trees)

The National Planning Policy Framework (NPPF), updated in 2018, includes a provision that “development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons” (paragraph 175c).

It is understood that this development is seeking a Development Consent Order to prove its ‘wholly exceptional’ status, but it must:

1. Avoid impacts
2. Reduce (mitigate) impacts
3. Compensate as a last resort.

7.4.1 Suitable guidance is being used and adhered to, and we welcome other relevant references being taken account of.

7.4.11 Comments on Cumulative Effects Assessment are discussed below.

7.4.13 We understand and accept the need to amend the scope of the assessment following a review of changes in DMRB LA 107 Landscape and Visual Effects.

7.4.14 Tables 7-1 and 7-2 lay out the proposed scope in terms of both landscape and visual effects. Norfolk County Council broadly agrees with the elements which have been scoped in and out of the assessment. The table notes that there are no landscape designations. However, to the south east of the existing Thickthorn roundabout, close to where the proposed new slip road joins the A47 is Intwood Hall, a nationally registered grade 2 historic park and garden. This does not appear to be mentioned in this table, not even in a similar fashion to Thickthorn Hall. Justification might be needed to clarify this.

7.4.15 The council also acknowledges the change in guidance on Visual Representation of Development Proposals and is pleased to see that whilst it does not change the approach, that the amended guidance has been considered.

7.4.22 We support and share concerns regarding the key issues raised by consultees previously.

7.4.23 We are satisfied that viewpoints have been reviewed and agreed by South Norfolk District Council as the local planning authority.

7.6.1 We are happy with the 1km from the DCO boundary study area of the Landscape and Visual Impact Assessment (LVIA), considering the relatively low lying elements of the scheme, and the coincidence of the more visually obtrusive elements with the existing structures of the A47 and A11.

7.6.2 A reasoned argument is made for the exclusion of visual receptors to the west of Station Road and parts of Hethersett and Ketteringham. We understand this decision at this stage and appreciate that there are unlikely to be any significant visual effects caused by the proposed scheme in these locations.

7.7.2 Whilst the works at St Giles Park are expected to be largely complete by 2023, when the proposed scheme is programmed to begin, consideration of potential delays should be giving to the cumulative impacts of both works overlapping and the landscape and visual effects that these two schemes running concurrently may have on the surrounding local area.

7.7.6 This paragraph clearly lays out the importance of woodland and parkland-style trees in the landscape surrounding the scheme. Large losses of this

woodland and individual trees will have a detrimental effect on the area both in landscape and visual terms.

7.7.8 It will be important that, as identified in this statement, the impact of increased infrastructure within an area identified as a strategic gap between Cringleford and Hethersett and identified as a policy area seeking to protect openness and enhance the southern bypass is thoroughly considered. Whilst there area already extensive highways infrastructure in this area, bunding, embankments, linear planting or other road infrastructure has the potential to severely degrade the openness and landscape “gap” that is vital in the landscape here.

7.7.11 The impact on the setting of Thickthorn Hall historic park and garden is concerning, especially the loss of trees including two veterans. Where possible the loss of veteran trees should be avoided, and the scheme designed to allow these important trees to remain in the landscape.

7.7.13 We note that a majority of the individual trees identified in the AIA are A grade, and some of those are additionally noted as veteran species. These trees, both A grade and below, form an important part of the wider landscape.

7.7.20 Whilst minor, Cantley Stream is an important feature within the landscape and should be unaffected where possible by any proposals.

7.7.21 Details the current road network and the rural character of these roads, particularly noting Cantley Lane South. This raises concerns regarding the link road proposed from B1172 Norwich Road, down to Cantley Lane South, which would have a detrimental impact on the rural nature of this road, both in terms of the introduction of a new junction, but also an increase in traffic. The council has had discussions with Highways England in respect of the justification for this road, which not only raises concerns regarding Cantley Lane South, but also involves the removal of some notable large and veteran trees.

7.7.38 We agree with the conclusions drawn that existing proposals might begin to introduce additional lighting, and that there will therefore be a need for this scheme to minimise any additional lighting of the area and work to retain that gap between rural and urban areas.

7.7.49 The concurrent construction of St Giles with the Thickthorn Junction proposals should be considered. The extent of this consideration will likely depend on how much work will still be ongoing at St Giles.

7.8.1 Construction compounds should be sited where minimal impacts are likely, for example it would not be appropriate to remove trees to site a compound, which would not need to be removed for the proposed scheme.

7.9.3 There are extensive losses of landscape features and notable tree losses as a result of this scheme. It will be hard to offer replacements at such scale, but mitigation must be well thought out and the locations carefully considered so as

to both minimise the visual impacts of the scheme and minimise the landscape scale impacts on a wider scale.

7.10.3 We agree that the overall removal of existing vegetation including woodland and prominent trees, realignment of Cantley Stream, earthworks and presence of construction plant, materials, machinery, construction compounds and construction lighting will have an adverse and significant impact on the local landscape character during construction and will, however temporary, change the perception of the area from a tranquil rural landscape to one of much more activity, movement and perceived development.

7.10.6 The loss of woodland and large and visually prominent specimens located along Cantley Lane South is of concern, whilst this is noted as an effect during the construction period, this is a long term effect that cannot be easily replaced by the planting of new young trees.

7.10.8 Depending on the progress of St Giles Park, it will be important that the haul road proposed in this area does not require the removal of installed landscape buffer. If this element of St Giles Park has already been completed, it would be inappropriate to remove it.

7.10.10 The level of visual disruption for these receptors (R1, R2, FP2, R5, R6 and FP1) is of concern.

7.10.21 The disruption at Cantley Lane South is of most concern, it appears that there will be considerable disruption here to the views, tranquillity and overall landscape during both construction and operation.

7.10.25 -7.10.26 Similar concerns are raised for the footpaths Hethersett FP6 and Cringleford FP4.

7.10.31 The scale of loss of vegetation in the landscape, particularly when involving mature woodland and trees, and veteran trees is of concern both in a landscape and visual sense. Wherever possible this should be avoided and if opportunities arrive during the finalising of the design to retain any of these important landscape features they should be utilised.

7.10.35 The loss of existing rural character and sense of tranquillity on Cantley Lane South is disappointing, and whilst will be partially restored, this is an irreversible change to the road and the local area. The loss of veteran trees, and mature roadside trees should be avoided where at all possible, where the scheme doesn't allow this and the justification is there, suitable mitigation should be allocated for these losses. Whilst new young trees, cannot go anywhere towards replacing veteran trees, it would be hoped that the scheme can at least plant substantial trees that will in the long-term future offer distinct value to the landscape.

7.10.50 – 7.10.55 Whilst it is appreciated by year 15 the effects have been assessed as neutral or slight adverse, the combination of construction effects, plus 10+ years of operational effects are significant, particularly on residential

receptors. Where a large adverse visual effect is left at year 15 (locations redacted), this is concerning.

7.12.8 We understand the conclusions drawn that the scheme would not result in widespread significant residual visual effects and are limited to a localised impact. Whilst this is detrimental to those living in and using this local area, we understand that under the DMRB LA107 this is considered minor. However, we would consider that the removal of such mature woodland, trees, and veteran trees, the realignment of watercourse and introduction of additional infrastructure into the landscape should be considered with more weight. Particularly where this relates to veteran species which cannot be replaced with mitigation planting.

Chapter 15 – Cumulative Effects Assessment (Please note only elements relevant to Landscape and visual effects have been reviewed)

The document has been reviewed for its inclusion of Landscape and Visual consideration, but comments cannot be made on the suitability of the methodology or the suitable qualifications of those who have undertaken the assessment. Whilst some elements are redacted due to (we believe) addresses, we believe we've been able to establish the locations that the assessment relate to and broadly support the conclusions drawn.

Appendix 7.4 – Visual Receptors: We are happy that the Visual Receptors have been agreed in consultation with the relevant district authorities. We have not undertaken a review of these at this stage.

Appendix 7.5 – Representative Viewpoints: We are happy that the Viewpoints have been agreed in consultation with the relevant district authorities. We have not undertaken a review of the viewpoints at this stage.

Appendix 7.6: Arboriculture Impact Assessment (Please note for these comments, this has only been reviewed from a Landscape perspective and not in relation to Arboricultural expertise – see Norfolk County Council Arboricultural Comments).

- 4.9.3. The AIA appears to conform to industry standards and be fit for purpose. There are a considerable number of large trees proposed for removal including areas of mature woodland, and a number of irreplaceable veteran trees. We would of course, in the first instance prefer to see these trees retained where possible, and amendments made to the scheme to allow the retention of more trees. Trees in such large numbers play an important part in the wider landscape and act as features seen from great distances. Where the retention of trees is not possible, then suitable mitigation in line with Norfolk County Council's tree policy would be our next expectation. Whilst this will not replace the loss of mature and veteran trees, it will form the foundation of the future landscape. The location of such trees, tree belts, hedges and woodland should be carefully chosen to not just screen the development, but also be reflective and respectful of the wider landscape.

Environmental Masterplan TR010037/APP/6.8: The plans provide detailed proposals for the landscaping of the scheme. Further planting specification and planting details will be required, as well as management plans for the establishment and long-term maintenance of the various landscaping, landscape features and landscaped elements. Whilst net gain is not a requirement for DCO applications, a clear understanding of how mitigation planting numbers have been reached, and demonstration that they are calculated to suitably compensate losses needs clarifying. Detailed design might be required for some elements when specifications are confirmed further during the process. We note that a Landscape and Ecology Management Plan will be produced. There are dispensaries with some trees at the end of Cantley Lane south, clarification needed on whether these are to be retained. Mapping of the Meadow Farm county wildlife site across documents should be confirmed as there are some discrepancies.

4.10. **Biodiversity**

The Environmental Statement Non-Technical Summary notes that there are valuable habitats and species of nature conservation importance that could be adversely affected by the proposed scheme and that, although avoidance of impacting trees and hedgerows was a key consideration throughout the design stage, there will be small areas of these habitats that will need to be lost.

The potential unmitigated impacts of the proposed works include the loss of nesting, roosting, resting, commuting and foraging habitat for protected and notable species.

The summary states that mitigation measures have been identified to safeguard the conservation status of wildlife populations through both the construction and operational phases.

The summary states there would be significant effects to deciduous woodland and hedgerows due to the time delay in reaching their former maturity. There would be a significant effect from the loss of two veteran trees as they are irreplaceable.

There will be a net gain of more biodiverse grasslands with the introduction of species-rich and marshy, wet grassland. There will be riparian planting along Cantley Stream which will increase habitat for aquatic invertebrates.

There is a slight impact overall for bats due to the time delay between loss of habitat and the remediated habitats reaching maturity.

All other residual effects after mitigation are not considered significant.

4.10.1. **Comments**

Scheme Design: Has the scheme been reviewed by the Strategic Design Panel?

Environmental Statement - Chapter 8: Biodiversity: There are several inconsistencies in that Chapter 8 does not accurately reflect the conclusions and/or mitigation recommendations made within the ecological reports, and the

mitigation measures proposed are not always specific to the predicated impacts (or proven to be effective). Equally there are also inconsistencies between Chapter 8 and the Record of Environmental Actions and Commitments (REAC). Further details (examples) are provided although it is not exhaustive.

General Comments:

Scope

The Zone of Influence (ZOI) should be evidence based and refer to relevant guidelines. For example, it would be expected that the bat Core Sustenance Zone (CSZ) would be used. The CSZ was designed to indicate:

- The area surrounding a communal roost within which development work might impact the commuting and foraging habitat of bats using that roost
- The area within which it might be necessary to ensure no net reduction in the quality and availability of foraging habitat for the colony, and CSZ are also important when considering/designing Biodiversity Net Gain see [Bat-Species-Core-Sustenance-Zones-and-Habitats-for-Biodiversity-Net-Gain.pdf](#) LD 118 Biodiversity Design provides guidance on species specific approaches to surveying. For example, for badger surveys 'a corridor of 500m (250m either side of the centre line of the road is usually sufficient'. Where deviation from guidelines is provided this should be justified.

Ecology surveys

Paragraph 99 of the ODPM Circular 06/2005 advises that the presence or otherwise of protected species, and the extent to which they might be affected by the proposed development, must be established before consent is granted. Therefore, if there is a reasonable likelihood of protected species being present and affected by the development, the surveys should be completed and any necessary measures to protect the species should be in place before the permission is granted. It is therefore recommended that where surveys are outstanding, or out of date, the are undertaken and the results used to update the Environmental Statement (eg see para 8.5.3, 8.7, of Chapter 8, and para 5.3.7 of the Bat Roost and Crossing Point Survey Report).

Similarly, where the red line site boundary has been amended, ecological surveys should be updated accordingly. For example, the survey area for the botanical surveys is substantially different from the order limit boundary submitted to PINS.

It is not clear why documents have been heavily redacted. Except for badger surveys, the information contained within is not sensitive.

Data should be passed on to Norfolk Biodiversity information Service as the earliest opportunity.

Avoidance

Unit 9 has been identified within the botanical surveys, as an area of potential ancient woodland which will be impacted by the scheme. As this has been omitted from subsequent assessments (Chapter 8) it is not clear if this has been considered and measures taken to avoid impacting irreplaceable habitat.

Paragraph 5.32 of the National Policy Statement National Networks (NPSNN) states that 'Aged or veteran trees found outside ancient woodland are particularly valuable for biodiversity and their loss should be avoided'. Where veteran trees would be affected by development proposals, the applicant should set out proposals for their conservation or, where their loss is unavoidable, the reasons for this.

Mitigation

As per comments made in the scoping opinion (TR10037-000010_THIC Scoping Opinion), mitigation measures in Chapter 8 should be described in full, and in detail. Evidence of the effectiveness of mitigation should be provided, and effectiveness defined.

Scoping opinion response (Ref 25) notes mortality (from collision risk) should be assessed in the Environmental Statement. Collision risk has been identified as an impact during construction (eg for great crested newts and bats) but mitigation has not specifically/clearly addressed the risk.

The proposed mitigation areas and enhancement areas are shown on Environmental Masterplan.

Enhancement

Para 8.4.15 refers to the DEFRA Biodiversity Metric 2.0. The calculations should be available for examination. Table 8-11 (page 51) 'Habitat types and areas to be remediated or enhanced' provides an indication but does the proposed development result in an overall biodiversity net gain of and if so, to what extent?

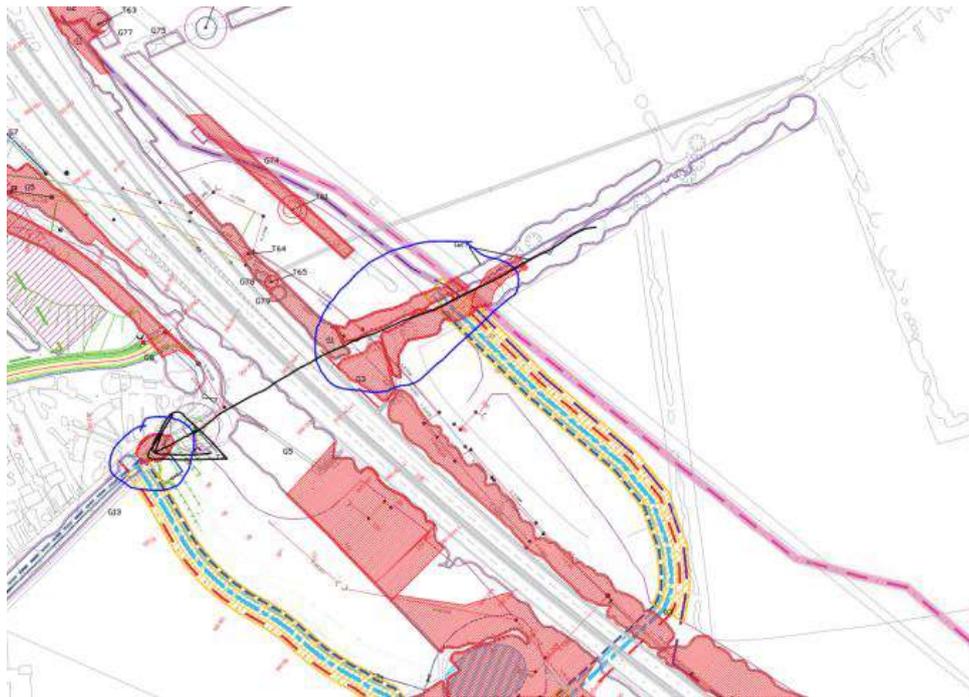
Areas where enhancements are to be secured are not shown on any of the plans. Land identified for mitigation and enhancements should consider future housing allocation sites eg the Greater Norwich Local Plan.

- Paragraph 8.4.20 [of the A47 NTE Environmental Statement, Chapter 8, Biodiversity] notes that "NCC have been consulted regarding barbastelle bats and the wider mitigation proposals for the proposed [A47] scheme", and that "bat mitigation implemented as part of the completed A1270 Broadland Northway and the associated monitoring data was discussed", with data being "exchanged on the locations of barbastelle bats" with a view to informing considerations relating to cumulative impact assessment.
- It is recommended that NCC is contacted again at the end of the 2021 survey season as surveys associated with the NWL are ongoing (2020 surveys for the NDR will be available online in due course). Please also note that Dr Charlotte Packman has been undertaking radio tracking surveys of the barbastelles in the NWL area. She should also be contacted for data. NCC understands that Dr Charlotte Packman believes that there

is a nationally significant breeding barbastelle colony of over 150 bats in this area. To date, however, no survey data has been shared with NCC or otherwise published by Dr Packman to provide supporting evidence which would substantiate Dr Packman's belief that there is a nationally significant breeding barbastelle bat colony in the area. Currently, the area is not formally designated as an SSSI or SAC on the basis of the presence of barbastelle bats, nor has it been selected for assessment by the Joint Nature Conservation Committee and, as such, it does not have the status of a notified SSSI or a possible SAC (pSAC). The Planning Inspectorate, as a public body, has a duty under Part 3, Section 40 of the Natural Environment and Rural Communities Act 2006, to have regard ...to the purpose of conserving biodiversity, to consider impacts of the road scheme, including in relation to this asserted colony.

- In section 8.7.8 Priority habitats identified under the Natural Environment and Rural Communities Act 2006 (NERC Act) are identified as national importance. No reference is given to Priority Species that are in the area.
- Para 8.7.53 states that all trees within 50m of the DCO boundary have had been subject to updated PRAs in 2020 but this contradicts para 5.3.7 of the Bat Roost and Crossing Point Survey Report which states that Preliminary Roost Assessment (PRA) surveys of a tree is required in 2021.
- Para 8.7.5 does not elaborate on how areas of 'high' bat activity was quantified.
- Table 8-9. (page 42) great crested newt. Notes that attenuation ponds are proposed as enhancement for great crested newts but it is not clear whether they will contain standing water, and for how long. Also, Table 8-12 (page 56) notes that the attenuation ponds are designed to reduce pollution entering nearby water courses, and as such would not provide suitable enhancement for great crested newts. There is no mention of enhancement of SuDS/attenuation ponds for great crested newt this in the Record of Environmental Actions and Commitments (REAC) in the Environmental Management Plan.
- Table 8-9 notes the translocation of 5m of important hedgerow but does not explain where this will be translocated to.
- Table 8-9 (page 39) notes that a UKPN cable is being installed within the CWS. It is not clear which CWS is referred to and this has not been previously mentioned in Chapter 8 or Chapter 15 – Cumulative Effects Assessment. Note: it is mentioned in B11 Table 3-1: Record of environmental actions and commitments
- Table 8-12 notes this will require a 6m wide trench but no mention is made to the area required for construction of this trench.
- Meadow Farm Meadows county wildlife site was not correctly mapped within the botanical surveys report.
- Table 8-9 (page 40) makes no mention of the potential ancient woodland within unit N. It is not clear if measures have been taken to avoid impacting this area.
- Table 8-9 Breeding birds – no mention is made of the ten skylark plots to be created in surrounding fields to mitigate for the loss of habitat, as recommended within the Breeding Bird, Hobby and Barn Owl Report.

- Table 8-10 (page 42). Great crested newts (GCN). Surveys for GCN had not been completed at the time of submission but should now (May 2021) have been nearly completed. It is recommended that the ES is updated to include the results of the surveys. If surveys have not been completed it is not known if this species is present and affected by works, or if a licence will be required. The presence (or absence) of GCN is a material consideration.
- Table 8-10 (page 49). Within this table details of the bat mitigation measures are not provided in detail. Eg no mention is made of the proposed 3m high environmental barrier for bats mentioned in B5 of the REAC (note it is shown as 3.5 m on sheet 4 of 5 of the Environmental Masterplan , or clusters of trees to guide bats towards the bat highway crossing points (see Environmental Masterplan sheet 4 of 5.
- The assessment must detail all mitigation measures proposed. For example in Tables 8-9 and 8-10 there is no mention of post and wire mesh fence to 'facilitate a known bat flight path' (see para 2.4.26 of Chapter 2), (and Environmental Masterplan) and it notes that Cantley Stream will be re-aligned but does not provide details of how much of the stream will be re-aligned.
- Paragraph 4.5 of LD 118 notes that 'only mitigation measures that are effective and proven shall be included in the project design' and paragraph 4.6 notes that 'where innovative or unproven mitigation measures are proposed, evidence of the consideration of uncertainty...shall be submitted.
- No evidence supporting the efficacy of mitigation measures, for example, the 'environmental barrier' for bats has been provided.
- Please note that CEDR (2016) (Conference of European Directors of Roads) concluded that hop-overs are not recommended as effective mitigation measures for Daubenton's bats, soprano pipistrelles and other species with similar flight behaviour (during the experiment temporary barrier screens 20m long and 4m high were placed across the bat commuting route – it is not clear how long the proposed bat fence would be).
- The applicant should also define what effective means. For example, Berthinussen & Altringham (2015) note that a mitigation measure should only be characterised as effective if at least 90% of bats are using the structure to cross the road safely and the number of bats crossing the road transect has not declined substantially.
- Consideration should also be given to how soon mitigation measures would expect to be effective. A delay would perhaps be expected as vegetation matures. Please note that there may be annual variation in efficacy of mitigation. For example, in one year 50% of bats might cross at a safe height, and 95% another year.
- However, mitigation measure cannot be considered in isolation.
- The Arboricultural Impact Assessment notes that tree group G27, G1, G3, and an unlabelled tree group on the western side (see below) will be removed, equating to a loss of around 85m of linear hedge/feature (see below). The red areas circled in blue highlight the areas of vegetation to be removed along Cantley Lane.



- As alluded to within the bat report, Cantley Lane is an important commuting and foraging corridor for bats. Surveys undertaken in support of 2017/2120 9south Norfolk Council) show that it is of high value to bats (see below). See below: (taken from 2020/0499).

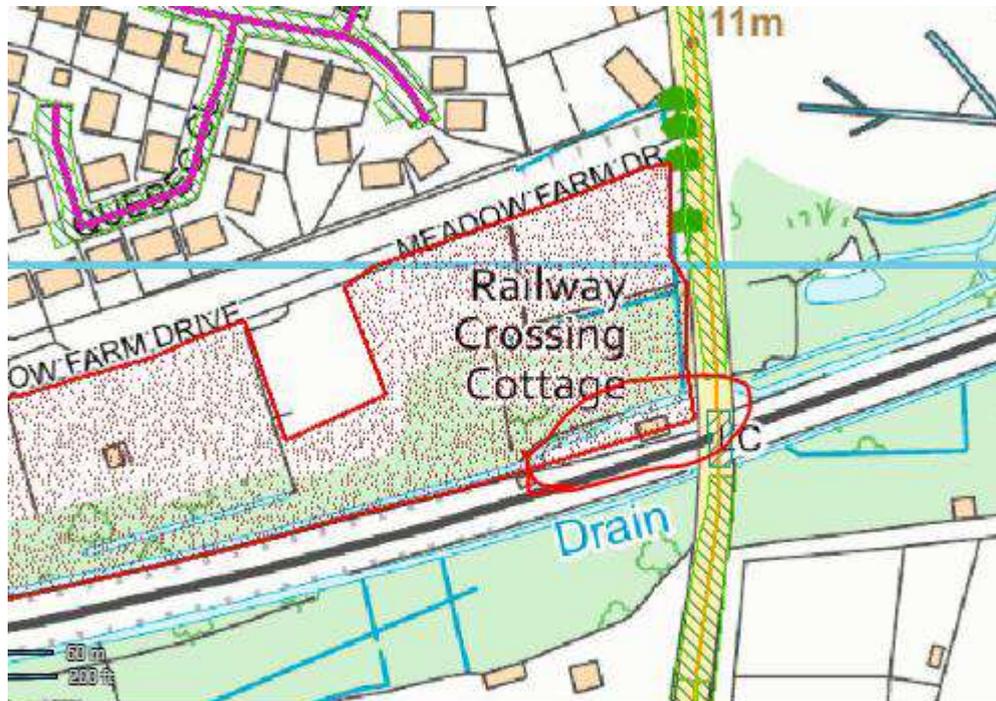
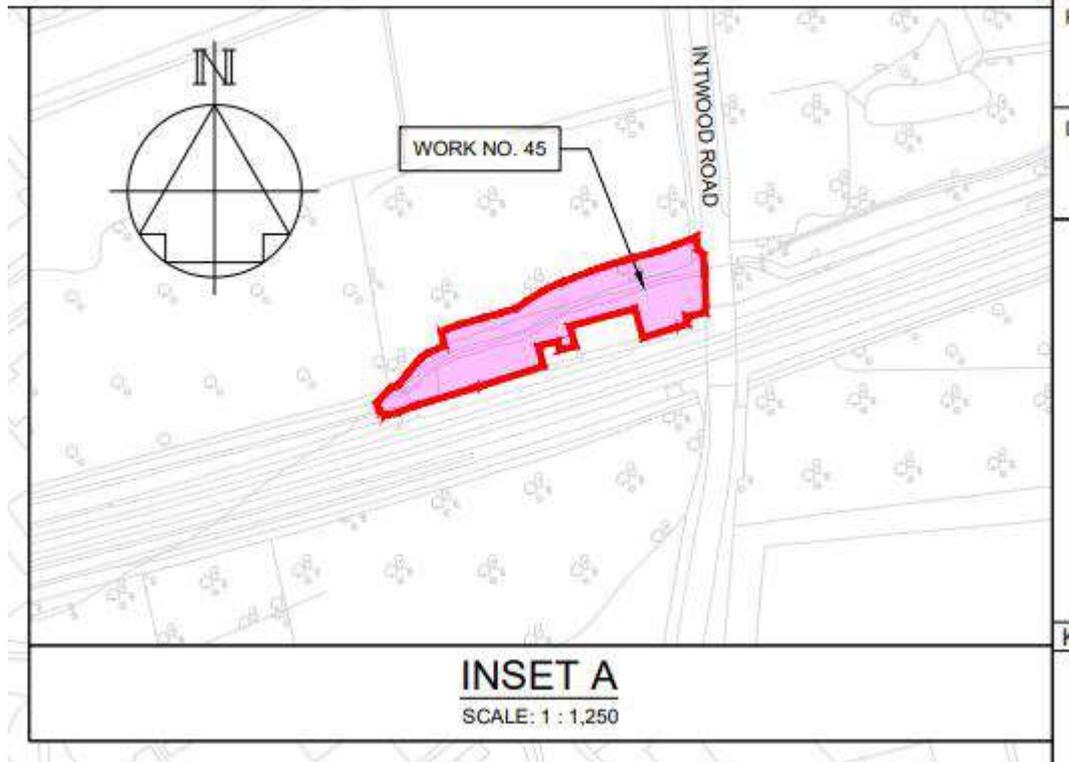


- The loss of substantial areas of vegetation on both sides of the A47, along the line of Cantley Lane, as well as that along the A47 to the south, shown on drawing no. 1050831-SWETHI-AIAP (in the Arboricultural Impact Assessment), will likely result in the loss of this commuting route across the road (a circa 170m gap), and/or increased risk of collision (no evidence has been provided to suggest that the proposed mitigation will be effective. Vegetation also provides bats with shelter from wind and protection from predators. The vegetation also provides a buffer for road noise and head lights.
- Page 53: We agree that habitat loss can, in time, be mitigated for by additional tree planting. However, we disagree that severance can also be mitigated for in this way. Parallel planting along the road does not mitigate severance caused by road widening.
- It is noted that a bat licence required for loss of roosts.
- Table 8-10 Water vole (page 53). No details are provided regarding the:
 - Area required to mitigate for habitat losses,
 - Area of habitat to be created as enhancement,
- The Environmental masterplan shows where mitigation and enhancements for water voles will be located.
- It is noted that a water vole licence will be required.
- Details of species rich grassland is shown within the Environmental Masterplan but this is shown within proximity to the road. Where will barn owl habitat be created?
- Table 8-11 Details of losses or gains in aquatic habitats are not provided
- Table 8-12. Consideration should be given not using topsoil on the verges and in preference to a generic seed mix we would recommend that locally harvested wildflowers (e.g. from a local CWS) is used in the creation of species rich grassland.
- 8.11.4 notes that details for monitoring is provided within the Environmental Management Plan

Environmental Statement - Appendix 8.1 Botanical Survey Report.pdf:

- The survey area (see figure 1a, page 9) differs from the current DCO red-line site boundary (see General Arrangements Plan).
- It is noted that Areas 'G' and 'I' are of district value, as is Meadow Farm county wildlife site (CWS).
- Hedgerows H2, H3, and H6 likely to be of ecological importance under the Hedgerow Regulations 1997 although it is not clear which hedges these refer to, or which hedges were surveyed as no plan showing, for example, H1, H2, H3... etc. has been provided. The Volume 2 2.12 Hedgerow Plans document does not use the same system (H1...H2) to identify hedges.
- Para 7.6 notes that there will be a direct loss of an area of Meadow Farm CWS to facilitate construction of the slip road and drainage ditch however in Chapter 8 (Table 8-7) it notes that the impact is temporary. It is not clear what the impacts will be and if there will be a permanent loss of CWS
- Work No. 45 (environmental mitigation) is located within Meadow Farm CWS (see below) but this does not appear to have been identified by the applicant. It is not clear what works are planned in this area.

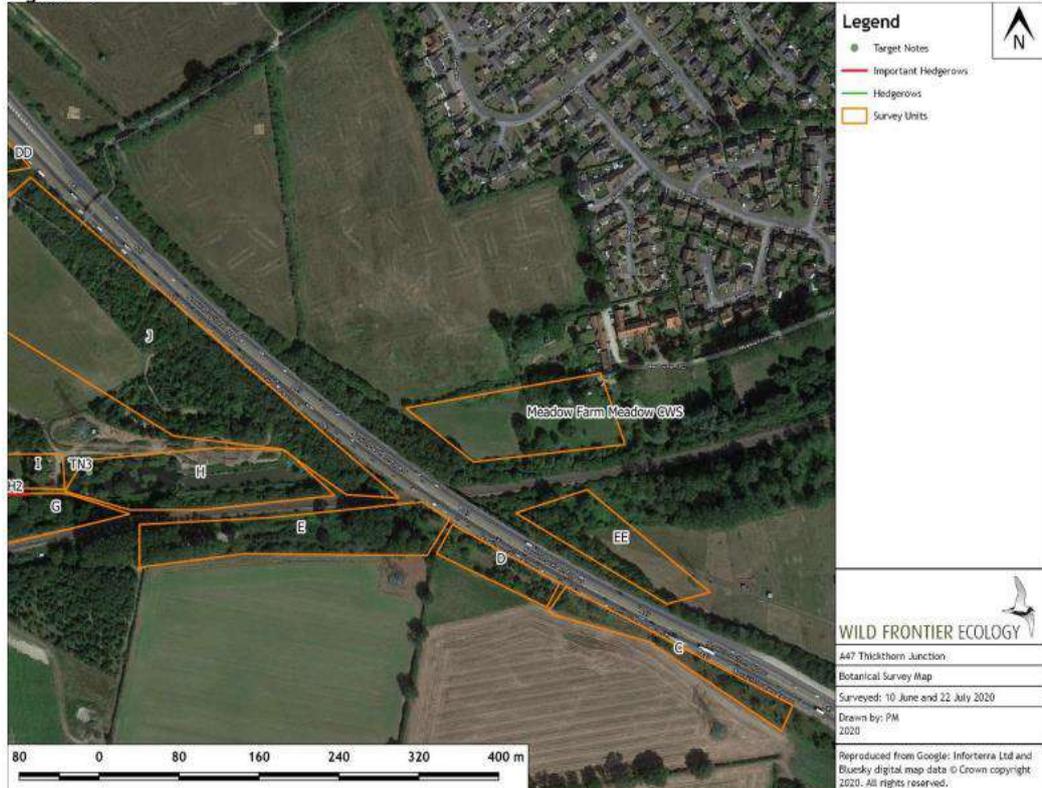
ed for any other project without an independent check being carried out as to its suitability and prior written authority of Galliford Try being obtained.



WORK ORDER 45

- Work Nos. 6 and 40 may also impact Meadow Farm CWS. Work No 49 abuts Meadow Farm CWS. Work No. 42 directly impacts Meadow Farm CWS and is associated within utilities diversion – it is not clear if this is associated with the UKPN cable route.
- Meadow Farm CWS is only shown to the right of the A47 (top, below). However, it extends to the left of the A47 as shown (bottom, below). This will affect the impact assessment and mitigation requirements.

Figure 2b



- Para 7.6 also notes ‘The southern edge of Area N, a priority habitat and potentially ancient woodland (present since at least 1840) will be impacted by a new road. This will be an intermediate impact on this feature. Mitigation is advised’ the potential presence of ancient woodland is not mentioned elsewhere and Chapter 8 only refers to veteran trees on the ancient woodland inventory (para 8.7.14)
- It should be established if this woodland is ancient and the scheme re-designed to avoid this area as recommended in section 8 of the botanical report. It is noted that this is not reflected in para 6.1 which assigns area N as of local value only.



Environmental Statement Appendices Appendix 8.2 – Terrestrial Invertebrate Survey Report:

- Sampling points for the 2020 were chosen based on surveys undertaken in 2017. It is not clear how the 2017 surveys locations were identified. For example, the surveys area represents only part of the order limit boundary.
- Impacts from loss of veteran oak trees on species of conservation concern including nationally rare *Quedius dilatatus* and *Aulonothroscus brevicollis*. It is not clear how this will be mitigated.

Environmental Statement Appendices Appendix 8.3 – Aquatic Macroinvertebrate Survey Report:

- Surveys were undertaken in 2017 (AECOM) and in 2020. Sampling points in 2020 were as previously used in 2017. It is not clear how the sampling points were identified in 2017 or if they are representative.

Environmental Statement Appendices Appendix 8.4 Great Crested Newt Survey Report:

- Please note that the Great Crested Newt Habitat Suitability Index Advice Note from Amphibian and Reptile Groups of UK (ARG UK) states that the Habitat Suitability Index (HSI) ‘is not a substitute for newt surveys’. It is not a predictor of the likely presence or absence of this species. This view is also supported by the National Amphibian and Reptile Recording Scheme (NARRS)
- Please also note that eDNA surveys only provides presence or absent data. It does not provide information on populations, required in order to apply for a Protected Species mitigation licence from Natural England. If

the applicant proposed to apply to the DLL scheme the IPROC should be submitted to PINS.

- If great crested newts are present it would be expected that gullies are not used to prevent newts becoming trapped see here.

Environmental Statement Appendices Appendix 8.5 – Reptile Survey Report:

- No compensatory habitat is proposed for reptiles found to the north of the A11 but it is noted that a mitigation area is shown on the Environmental Masterplan sheet 4 of 5 to the south. Given that the reptiles were recorded to the north of the site, and the A11 will act as a potential barrier to movement the efficacy of this mitigation area is queried.

Environmental Statement Appendices Appendix 8.6 Breeding bird, hobby and barn owl survey report:

- It is not clear what the survey area was for the barn owl survey (para 5.22 only notes that sites identified by AECOM 2017 were surveyed). Chapter 15 -Cumulative Effects Assessment notes that this was 1.5 km of the proposed scheme. This should be clarified.
- It is noted that the barn owl report recommends compensatory rough grassland should be created alongside the proposed scheme (para 7.2.5) to compensate for foraging habitat that will be lost and that several nest boxes are placed near the proposed drainage basin (para 7.3.3)
- Paragraph 7.3.3 Please note that barn owl boxes must be placed no closer than 1.5km from the road (Shawyer, 2011: 3 (Shawyer, C.R., 2011. Barn Owl *Tyto alba* Survey Methodology and Techniques for use in Ecological Assessment: Developing Best Practice in Survey and Reporting. IEEM, Winchester))
- Consideration will need to be given to where compensatory habitat will be provided so as to avoid potential for collision

Environmental Statement Appendices Appendix 8.7 – Wintering Bird Survey Report:

- The Scottish Biodiversity List (2012) is not relevant to this scheme

Environmental Statement Appendices Appendix 8.8- Bat Roost and Crossing Point Survey Report:

- The 6.3 Environmental Statement Appendices Appendix 8.6 Breeding bird, hobby and barn owl survey report notes a brown long-eared bat feeding roost is present at Site 1 - Metal Shack (para 7.2.1). This should be mentioned in the bat report.

Environmental Statement Appendices Appendix 8.9 Otter and Water Vole Report:

- Additional surveys of potential holt locations required.
- Habitat enhancement for water voles is shown on the Environmental Masterplan

Environmental Statement - Appendix 8.11 Confidential Badger Survey Report:

- Standing advice for badgers notes that when determining if setts are in use they should be monitored over an extended period of time e.g. up to 4 weeks. The surveys do not conform to standing advice.
- 4.1.1 and 4.1.2 notes that the sett is 'partly used' but in 5.1.1. it contradicts this by saying 'none of the setts...were found to be currently in use'.
- It is not clear if the sett is active.

Lighting design provided in Volume 6.8 Environmental Masterplan (TR010037/APP/6.8):

- Lighting design has considered the Institution of Lighting Professional's (ILP) GN08 – 18 – Bats and Artificial Lighting in the UK.
- It is proposed that lighting will be designed will backlight shields (see pages 52, 53, 54) and LED bulbs to reduce light spill. Please note that the luminaires proposed in the lighting proposal PHILIPS LUMA BGP 704 TYPE; LUMA BGP705 may not be suitable for shields. This should be checked with the manufacturer.
- It would be beneficial to include a plan showing what the lighting scheme will look like at night (with contours).

Chapter 15 Cumulative Effects Assessment:

- See comments regarding CSZ for bats.

Environmental Statement Report to inform Habitats Regulations Assessment:

- Natural England have been involved with preparation of the HRA, and agreed with the conclusions of the Draft HRA, in November 2020.
- We broadly agree with the conclusions but would note that NCC understands that Dr Charlotte Packman believes that there is a nationally significant breeding barbastelle colony of over 150 bats in the area. Currently, the area is not formally designated as a SSSI or SAC on the basis of the presence of barbastelle bats, nor has it been selected for assessment by the Joint Nature Conservation Committee and, as such, it does not have the status of a notified SSSI or a possible SAC (pSAC).
- Para 3.3.2 notes that otter surveys were undertaken in 2016, 2018 and 2020. This differs from the survey information provided in Appendix 8.9 Otter and water vole report, which notes that a Phase 1 surveys was undertaken in 2016 (see para 2.1.2).
- Para 3.3.2 states botanical surveys were undertaken in 2016 although Appendix 8.1 – Botanical Survey Report notes that the botanical surveys were undertaken in 2017 (chapter 2), and 2020 (see para 4.3). It is not clear if the Phase 1 surveys undertaken in 2016 comprised full botanical and otter surveys.
- Chapter 3 considers in combination effects. The reader is directed to ES Chapter 15 (Cumulative effects assessment) (TR010037/APP/6.1). For the assessment of cumulative effects and the list of the proposed developments. This information should be provided within the HRA.
- The HRA is a multi-stage process which helps determine Likely Significant Effects (LSE) and (where appropriate) assess adverse effects on the

integrity of an NSN: human and heritage receptors are not pertinent (see 3.4.4).

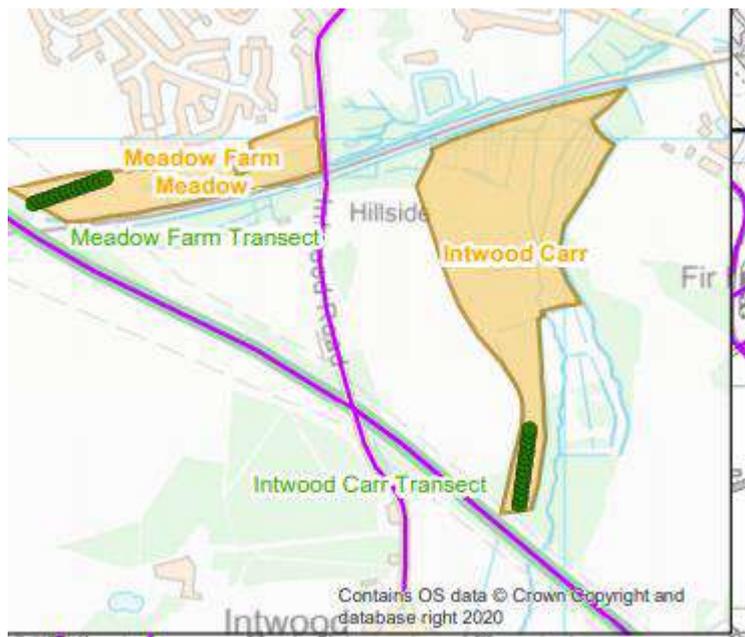
- Para 3.4.8 (below) - It is not clear why reference has been made to Bechstein bats as this species is not present in Norfolk. We (the Natural Environment Team) were consulted in January 2021 with regards to the Long List. During this consultation we queried the use of a 2km CEA ZOI, suggesting the Core Sustenance Zones of bats is used. No mention was made to Bechstein bats.

Volume 3 3.1 Draft Development Consent Order:

- Schedule 8, part 2 refers to the removal of important hedgerows (H3 and H4). In Chapter 8 (Page 40) it states that 5m of a section of important hedge will be lost. It is not clear how many metres of important hedge will be lost (Norfolk County Council has been unable to locate a plan showing where these hedges are).

Volume 6 6.2 Environmental Statement Figures 5.5 – 5.8:

- It is not clear what the 'ecological transects' (see below) relate too – for example they do not represent transects undertaken for breeding bird, or bat surveys.



Environmental Management Plan (EMP) First Iteration and Record of Environmental Actions and Commitments (REAC):

- Should accurately reflect recommendations made within the ecology report, and chapter 8.
- The EMP does not mention design of attenuation ponds for great crested newts (only mentions SuDS on page 42) this is also not shown on the Environmental masterplan
- Notes a Landscape and ecology management plan (LEMP) will be prepared.
- Table xx B1 please can the reports be sent to neti@norfolk.gov.uk.

- B5 notes that trees will be retained at the end of Cantley Lane south – this is contrary to details within the AIA.
- Table 4-1 should also mention that the need for a great crested newt licence needs to be confirmed following completion of surveys.
- Table 6.1.
 - B5 – Monitoring of the effectiveness of the bat crossing point and wider road (to establish if bats cross elsewhere) should also be undertaken. Thermal imaging/infra-red cameras should be used.
 - B6/B7. Road casualty surveys design needs to be effective – use of sniffer dogs is recommended and should cover the entirety of the road. Triggers should be identified for where additional mitigation is required.

The county council was not able to locate the Phase 1 habitat survey, or any of the original survey reports undertaken by AECOM, on PINS.

4.11. **Geology and Soils**

The proposed scheme would result in a significant effect on agricultural land, causing permanent and temporary loss of agricultural land. The scheme proposes a Soil Management Plan be developed to preserve land quality. Provided mitigation measures are effective and temporary land takes are restored, the long-term effects on agricultural soils would be limited to the area of agricultural land which is permanently lost; the summary suggests this is a significant and moderate effect.

The summary identifies two potential sources of contaminated land which present a possible risk to human health resulting from ground gas production. These sites are Cantley Lane landfill and an infilled gravel pit. It is noted there are appropriate mitigation measures to ensure the potential sources are managed.

4.11.1. **Comments**

The council has no comment on this section.

4.12. **Material Assets & Waste**

The assessment concludes that taking into account the design, mitigation and enhancement measures to be implemented during construction, it is considered that these developments would generate low quantities of waste in relation to the baseline landfill capacities for the east of England region.

The comments set out below relate to Norfolk County Council in its capacity as the Minerals and Waste Planning Authority. Where they refer to paragraphs, this is in respect to the Environmental Statement Appendix 10.4 – Mineral Impact Assessment.

4.12.1. **Comments**

The Mineral Planning Authority (MPA) welcomes the inclusion of a Mineral Impact Assessment as part of the proposed scheme. The MPA agrees with the summary of mineral resources within the scheme and the constraints which are

outlined in paragraphs 10.3.16-10.3.18 (of the Mineral Impact Assessment. The MPA also agrees with the assessment of reuse suitability of site-won materials as outlined in paragraphs 10.5.8.-10.5.14.

The MPA notes that an estimate of 107,500m³ of site won material is likely to be extracted during the construction phase, as outlined in paragraph 10.5.13. The MPA recognises that this an estimate and that a full assessment of the reuse potential of material will be required as it is excavated. Paragraph 10.5.14 states that the scheme has a significant earthworks material deficit, and therefore any opportunity to reuse the excavated material will be taken.

In conclusion, the MPA considers that the Mineral Impact Assessment appropriately assesses the safeguarded mineral resources for the proposed scheme and contains an appropriate strategy for identifying suitable material for reuse in the construction phases of the scheme. Norfolk County Council, in its capacity as the Mineral Planning Authority, considers that if the scheme is required to follow the strategy outlined in the Mineral Impact Assessment this will effectively address mineral safeguarding issues relating to resource sterilisation.

4.13. **Noise and Vibration**

The Environmental Statement Non-Technical Summary notes that mitigation measures will be provided to protect noise sensitive receptors which are foreseen to experience significant noise effects resulting from construction of the proposal. These are temporary noise barriers and real-time noise monitoring.

The assessment concludes there are no significant traffic noise effects predicted from the proposed schemes operations, and therefore no mitigation is suggested.

4.13.1. **Comments**

The county council would expect disruption to be kept to a minimum during the A47 dualling construction period and would want to work with Highways England, or its contractors, on managing traffic during the works.

4.14. **Population and Human Health**

The Environmental Statement Non-Technical Summary notes the potential significant effects for population and human health as a result of the proposed scheme.

The assessment concludes that, during construction:

- Traffic management measures will disrupt access along the local road network for local residents and businesses, causing longer journey times and severance of communities and their facilities
- Impacts to health in terms of noise, dust and visual intrusion
- Disruption to farming operations within the DCO boundary

Permanent impacts would include:

- Residential properties and businesses on Cantley Lane South will likely experience longer journey times due to changes to access

- Loss of a proposed area of formal public open space at Cringleford Residential Development unless a suitable alternative can be agreed with the developer and local planning authority
- An increase in journey time for users of footpath FP4a due to diversion of the footpath for the new bridge for walking, cycling and horse riding
- Improved safety: a proposed 40mph speed limit on the B1172 Norwich Road and introducing traffic lights for those accessing community assets and Thickthorn services
- Reduced journey times for Round House Park residential area and residential properties and businesses on Station Lane.

In relation to the footpath issue noted above, this connects via a footbridge across the A47 Cantley Lane South to Cantley Lane North. The bridge is being relocated further east, by 45m, to accommodate the revised slip road arrangements. The current Pegasus crossing (which accommodates foot, cycle and horse-riding movements) across the A47 slip roads to the west of Thickthorn junction will be revised so that horse crossing movements are accommodated by the new bridge connecting Cantley Lane north to south. However, no further improvement for cyclists or walkers is proposed across the slip roads, which form part of the new Norwich-Hethersett-Wymondham cycleway (ie it will remain as an at-grade signalised crossing of the slip roads).

Members should note that officers are currently in discussion with Highways England regarding construction about how the scheme might be constructed. The works have the potential to severely affect operation of the trunk road (and local networks) during construction. Two options might be worthy of consideration: the first to close the trunk road for a relatively short period whilst the major work (eg underpasses) are put in place; the second option might be to keep the trunk road open during construction, although this would result in impacts overall lengthy period of time.

4.14.1. **Comments**

The provision of a new walking, cycling and horse-riding (WCH) bridge across the A47 connecting Cantley Lane South to Cantley Lane North is supported as current WCH provision here is not ideal so underused or misused, indicating revised facilities are needed. Consequently, the removal of the current Pegasus crossing (on the A47 slip roads west of the junction), and the necessity of diversion and/or extinguishment of existing Public Rights of Way, either to accommodate construction or to link to the new bridge, is accepted and supported. However, in order for this bridge to fully accommodate all WCH use, a surface suitable for equestrian use must be incorporated into the design and should link into other new WCH facilities (see below). Should it not be possible to have the new route in place before extinguishing the old, the relevant temporary closures and/or diversion orders will be required to maintain continuity of WCH access where possible.

We note the additional WCH route along the new Cantley Lane link road with crossing facility connecting to the existing WCH provision on Norwich Rd providing additional links to the Wymondham to Sprowston Pedalways cycle route. However, given the recent investment by the county council through DfT's

Transforming Cities and Cycle Ambition Grant to create a continuous walking/cycle link between the residential growth areas in Wymondham and Hethersett to the centre of Norwich, the lack of improvements to the existing WCH provision at the Thickthorn junction and no provision along Cantley Lane South from the new link road to the new WCH bridge represents a missed opportunity to build on the recent investment in the area and encourage growth in walking and cycling.

The construction of a new private means of access on Cantley Lane South may affect the alignment of a Public Right of Way, Hethersett Footpath 6 with the risk of creating a short length of highways maintainable inaccessible PRow. Layout and design of this junction must take this into account and be adjusted accordingly.

- 4.14.2. The county council welcomes discussions with Highways England about options for construction. The works have the potential for significant impacts, not just to the operation of the trunk road, but also over a wider area of the local transport network. The council accepts that such works will cause some impacts and wishes to work with highways England on how these best be mitigated.

4.15. **Road Drainage and the Water Environment**

The non-technical summary lists the key surface water receptors within the study area as Cantley Stream, Intwood Stream and local ponds; the River Yare is identified as a potential receptor as it is downstream of Intwood Stream. The key groundwater receptors within the study area are aquifers, Cantley Stream and lowland fen priority habitats.

It states that the new carriageway will discharge surface water to Cantley Stream and runoff to oversized pipes and attenuation ponds, designed to attenuate a 1 in 100-year storm event (plus a 20% climate change allowance with a sensitivity check at 40% climate change) in line with guidance. The proposed scheme design incorporates treatment of road drainage prior to discharge to groundwater.

The summary shows mitigation is proposed for property level protection at a residential property upstream of Intwood Road to negate the risk of flooding. There are no other residential properties impacted by the proposed scheme.

Aside from the moderate significant impact of flood risk within the Cantley Stream floodplain, with mitigation it is not expected to cause additional significant effects, during construction or operational phases.

4.15.1. **Comments**

The Lead Local Flood Authority (LLFA) team has been in on-going consultation with Highways England between September 2020 and March 2021. The LLFA acknowledge there are some remaining comments which require addressing, and some on-going activities relate to requests for clarification or further information comments from the LLFA during 2021.

Cantley Lane South Culvert

The LLFA acknowledge the 600mm freeboard requirements in the new Cantley Lane South Culvert were not possible due to the environmental and ecological considerations. This resulted in a reduction to the minimum freeboard through the culvert to 0.428m during the 100-year plus 65% climate change event.

Cantley Stream Floodplain

The LLFA acknowledge there will be significant improvements to the floodplain extents and the level of flood risk posed due to the new Cantley Lane South Culvert (Figure 8-4 in the Flood Risk Assessment (FRA)). However, the LLFA also observe some variation in the floodplain within agricultural land and water compatible areas (Figures 8-5 and 8-6 in the FRA). It appears from the information presented that the existing water level in these locations could increase by up to 15mm along with minor variation in the location marginally. This could be influenced by the sensitivity of the hydraulic model to the ground model used. Even so, it would be prudent for the developer to liaise with the affected landowners to confirm they are aware and accept this potential change to their properties.

The FRA should provide detail on the maintenance plan for the mitigation measures proposed by the scheme. No information is provided regarding the inspection frequency, monitoring measures or structure ownership and operational responsibility. The LLFA would expect this information to be included in the FRA. It is noted that the drainage strategy provides some high-level information about who will have maintenance responsibility for the drainage assets on the different sections of road.

Intwood Road Property

The potential impacts and the implications of the flood risk at the property on Intwood Road varies between the FRA and the ES. The FRA reports an 8mm increase while the ES chapter 13 reports 15mm. While the increase in water level is small, both documents report that further survey at the property is required to fully determine the impact of this change in water level. The LLFA would expect to review the future survey results, the updated impact assessment for this property and any mitigation proposed, should it be necessary.

Groundwater Further Survey

There is the remaining supplementary groundwater investigation that is yet to be undertaken due to the unknown water levels in the chalk aquifer. The LLFA would expect to review these results and, if required, any further mitigation measures proposed to address any further groundwater flood risks identified by this study.

Drainage Strategy Summary

A summary of the proposed drainage catchments is provided in section 8.3 of the FRA. However, no information relating the pre and post development runoff rates, volume of attenuation required and information relating to infiltration testing is provided. The drainage strategy does not provide a summary of pre and post development runoff rates, a summary of the volume of attenuation required and proposed or information relating to infiltration testing. This should be provided in

the FRA to ensure that the assessment is joined up with the drainage design presented in the drainage strategy.

Construction Phase Mitigation

The construction phase mitigation measures presented in the FRA are “high level generic” approaches and do not relate specifically to the phased construction of the junction improvements. There is no explanation of what the proposed temporary drainage works will include or where the different temporary features will be located. It is indicated in the FRA that elements of the scheme “must be constructed in a phased manner to avoid additional flood risk”. However, there is no further information about the phasing of either the temporary or permanent drainage works or information about how this relates to the construction phasing of the proposed scheme. Further information is expected by the LLFA to demonstrate that flood risk will not be increased elsewhere in the relevant catchments during the construction phase.

The LLFA seeks assurances that further information and work will be undertaken in the future in the interests of managing potential future flood risk that could be derived from the construction of this scheme. In relation to the drainage strategy, no information regarding the proposed drainage approach is provided for the construction stage. Therefore, the information presented in the ES chapter 13 is not substantiated by the current evidence base presented. The LLFA seeks assurances that further information will be provided regarding the construction drainage strategy to ensure there is no increase in flood risk during the construction phase, prior to the permanent surface water drainage system becoming operational.

Drainage Strategy

The drainage strategy confirms that not all existing drainage assets (such as soakaways and commercial fishponds) have been identified and investigated. Further work is ongoing to identify and survey these and other assets. The LLFA seeks reassurance that this work will be undertaken, and the subsequent assessment reported and discussed with the LLFA.

The drainage strategy has been developed in accordance with the Design Manual for Roads and Bridges (DMRB) guidance. However, there appears to be no consideration or review of the LLFA’s design expectations or the alignment of these with the DMRB guidance. The LLFA’s design expectations that apply to all schemes are presented in the LLFA’s developer guidance. The LLFA notes the drainage strategy does not refer to the LLFA’s Developer Guidance. This is supported by the developer’s reported use of the FSR approach rather than the more relevant and updated FEH approach within the MicroDrainage calculations to design the piped network. The FEH data includes more recent rainfall records and improved accuracy in the hydrological assessment. The LLFA seeks assurances that testing of the proposed drainage network using the FEH rainfall approach is undertaken to confirm that the network is appropriately sized.

In section 5.2.22 of the drainage strategy, an impermeable factor 26% is used for soft surfaces, inferring that the majority of surface water is able to infiltrate into

the ground, while for hard surfaces a 100% impermeable factor is used. However, later in section 5.4.4 infiltration was dismissed as infiltration testing was unsuccessful. These two approaches oppose each other, based on the information provided. Further assessment is required to address this conflict. It is possible that the soft surface impermeable factor would need to be revised upwards and that a review of the implications is necessary to ensure that there is no increased risk of flooding.

There is no obvious discussion on the infiltration potential of the ground prior to reporting on the potential discharge options in section 5. Therefore, it is not possible to understand the context and evidence base that the selection of the discharge locations was founded upon.

The drainage strategy provides a summary of post development runoff rates and attenuation volumes for the post development scenario. However, the equivalent information is not available for the pre-development situation. Both sets of information should be provided for each discreet drainage catchment to enable a suitable comparison.

The drainage strategy does not provide information relating to infiltration testing that has been reported to have been undertaken. The LLFA would expect relevant information and results to be reported in both the drainage strategy and FRA to support the proposed drainage design.

A ground investigation is mentioned within section 5. However, again, no information or evidence is provided to support the statements made. There is a limited mention of the groundwater levels, although no further information or evidence is provided. It would be reasonable for relevant information from the ground investigation to be provided in the drainage strategy to support the design decisions.

In the land to the west of the diverge of the A11 with the link road the use of a pipe and piped storage rather than a ditch is proposed. The LLFA requests that further evidence to justify the selection of a pipe and tanked storage through this woodland area is provided.

In relation to the residual risks associated with the proposed pumping station, further information is being sought by the developer to determine the normal operation design storm criteria and failure provision, which may include additional emergency storage provision to mitigate flooding on the carriageway. Once this is determined, it is likely to require the assessment of the potential exceedance flow paths due to asset failure or design exceedance. This would identify where the water would flow and the impacts on the highway infrastructure likely to occur. The LLFA note that the emergency storage for the pumping station is being considered. Should this be necessary, the LLFA would require further information that identifies the design capacity of this storage.

- 4.15.2 The LLFA considers there to be an issue regarding the requirements section for surface and foul water drainage. The LLFA would like the draft DCO to be updated to recognise the right organisations by naming them rather than the planning authority (which does not normally have involvement in these aspects).

Please see the proposed wording below.

Requirements

Surface and foul water drainage

8.—(1) No part of the authorised development is to commence until for that part written details of the surface water drainage system, reflecting the drainage strategy and the mitigation measures set out in the REAC including means of pollution control, have been submitted to and approved in writing by the Secretary of State following consultation by the undertaker with Norfolk County Council as Lead Local Flood Authority on matters related to its function as statutory consultee.

(2) No part of the authorised development is to commence until for that part written details of the foul drainage system, reflecting the drainage strategy and the mitigation measures set out in the REAC including means of pollution control, have been submitted to and approved in writing by the Secretary of State following consultation by the undertaker with Anglian Water on matters related to its function.

(3) The surface water drainage system must be constructed in accordance with the approved details, unless otherwise agreed in writing by the Secretary of State following consultation by the undertaker with the Norfolk County Council as Lead Local Flood Authority on matters related to its function as statutory consultee, provided that the Secretary of State is satisfied that any amendments to the approved details would not give rise to any materially new or materially different environmental effects in comparison with those reported in the environmental statement.

(4) The foul water drainage system must be constructed in accordance with the approved details, unless otherwise agreed in writing by the Secretary of State following consultation by the undertaker with Anglian Water on matters related to its function, provided that the Secretary of State is satisfied that any amendments to the approved details would not give rise to any materially new or materially different environmental effects in comparison with those reported in the environmental statement.

- 4.15.3 It is noted that there is no mention of the ordinary watercourse consenting process. Therefore, the LLFA would like to include the proposed wording below into the DCO:

Works in a watercourse(s)

x.—(1) No stage of the works involving the crossing, diversion, alteration, replacement and installation of new structures of any designated main river or ordinary watercourse may commence until a scheme and programme for any

such permanent or temporary crossing, diversion, alteration, replacement and installation of new structure in that stage has been submitted to and, approved by the Secretary of State in consultation with Norfolk County Council, the Environment Agency, relevant drainage authorities and Natural England.

(2) The designated main river or ordinary watercourse must be crossed, diverted, alteration, replacement and installation of new permanent or temporary structures in accordance with the approved scheme and programme.

(3) Unless otherwise permitted under paragraph (x.1), throughout the period of construction of the works, all ditches, watercourses, field drainage systems and culverts must be maintained such that the flow of water is not impaired or the drainage onto and from adjoining land rendered less effective.

4.15.4 Furthermore, we note that there is no mention of the need to involve the LLFA in relation to the review of the temporary surface water drainage plan as part of the EMP. This needs to be addressed. We request that this be added as a requirement, maybe as a part 3 to 8 for the temporary works.

4.16. **Climate**

The construction, operation and use of the proposed scheme is predicted to increase carbon emissions. The Environmental Statement Non-Technical Summary states that guidance on gauging the significance of carbon emissions in Environmental Impact Assessment (EIA) is evolving, but that a definitive assessment of materiality is not possible.

The non-technical summary also sets out that the vulnerability of the proposal to projected changes in climate during operation has been assessed, and it has been deemed resilient. Therefore, no significant effects as a result of climate change are anticipated.

4.16.1. **Comments**

The county council is pleased to see the Environmental Statement Chapter on Climate is comprehensive in discussing the relevant policy triggers.

The scheme follows Highway England's Carbon Tool to evaluate and identify impacts, including the supply chain. The sections referencing Publicly Available Specification 2080:2016, Carbon Management in Infrastructure (PAS 2080), most notably section 14.9.3 (of the Environmental Statement Chapter 14 – Climate), suggests alignment to this. The county council would like to see the scheme accredited to this standard, as it is the national carbon standard for construction projects. Without accreditation, Norfolk County Council would seek justification for its exclusion.

The Effects on Climate section of the document (14.10.2) references the relatively small carbon impact of this scheme with regard to the UK's Carbon Budget Programme. However, the county council would suggest instead setting the impact against the cumulative impact of the projected programme of RIS2

and would like to see that a form of evaluation of this has taken place during the process, to align with the national commitment to RIS2.

The Environmental Impact Assessment (EIA) aligns with government policy and relates all significant road network schemes to their 'material impact' on meeting national carbon budget targets. The county council would suggest using the context of transport in isolation and provide analysis at a county level, using county-based transport data; the impact would then not be diluted into the UK's overall impact. There is a need to demonstrate how each scheme will meet the path to net zero by 2050 on a scheme by scheme basis.

The county council would want to work closely with Highways England to identify measures to reduce carbon emissions on the trunk road network, eg by installation of electric vehicle charging points to encourage electric vehicles, and understand how these will be brought forward, their impact on emissions reduction and how they dovetail with measures that local partners are taking on the local transport network and across other sectors. There is the potential for biodiversity and landscape to provide mitigation factors, although these would need to be significant, above baseline net gain requirements.

4.17. **Public Health**

4.17.1. **Comments**

The county council makes the following general comments in respect of its role as having public health responsibilities:

- Welcome reductions in driver stress for both general well-being and accident reduction potential
- Residents currently or likely to be affected by noise, vibration and potential increased pollution are screened for impact and potential mitigating action.

4.18. **Discharge of Requirements**

As part of the application process there will be a need for a series of planning requirements (akin to planning conditions) attached to the final consent (Development Consent Order) covering a range of detailed matters. In the event that the DCO is granted by the Secretary of State these requirements will ultimately need to be discharged as the development progresses. The discharge of conditions is normally undertaken by the determining authority (ie local planning authority) for non-NSIP schemes. For NSIP schemes there is the potential for the discharge of the requirements to be undertaken by either the district councils and/or the county council.

4.18.1. **Comments**

There are ongoing discussions with the applicant and the district councils affected by this scheme as to how best the discharge of requirements should be undertaken. One option might be that there is a single "lead" Authority discharging the requirements. An alternative option would be that each local authority discharge those requirements within their respective area / statutory remit. It is understood that the applicant is prepared to fund the above "discharging" work given the significant resource implication.

4.19. **Conclusion**

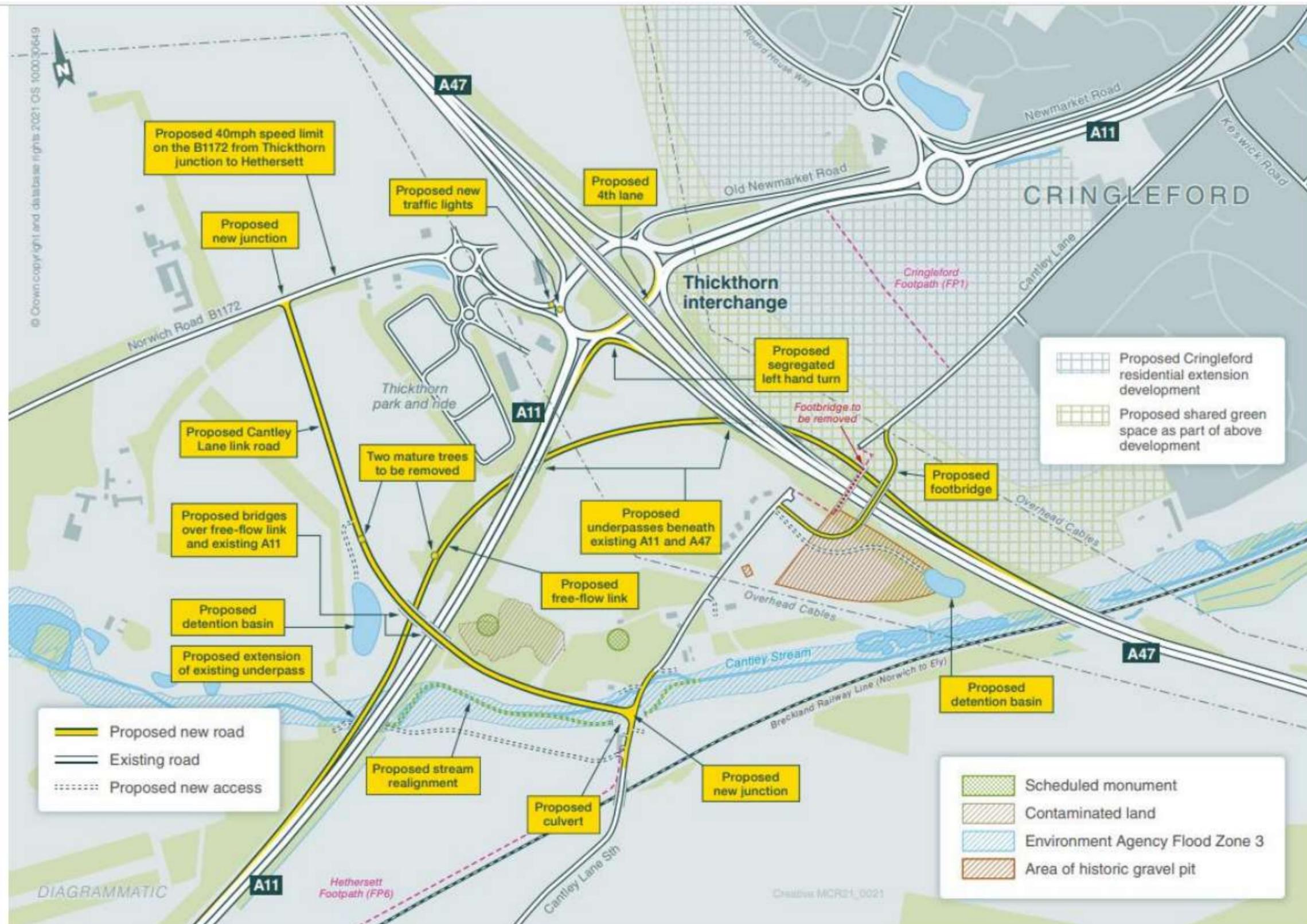
Norfolk County Council supports the principle of upgrading the existing A47/A11 Thickthorn Junction subject to:

- (a) The implementation of appropriate highway, historic environment, and surface water conditions / requirements being resolved through the DCO process.
- (b) The detailed comments set out in this report being addressed through the DCO process.

The County Council continues to work with Highways England, as evidenced in our Statement of Common Ground, in order to resolve the above issues.

Appendix A: Location Plan

NB: High resolution plans can be found [here](#) on the Planning Inspectorate website.



Planning and Highways Delegations Committee

Date: **Friday 27 August 2021**
Time: **10am**
Venue: **Edwards Room, County Hall,
Martineau Lane, Norwich**

Advice for members of the public:

This meeting will be held in public and in person.

It will be live streamed on YouTube and, in view of Covid-19 guidelines, we would encourage members of the public to watch remotely by clicking on the following link: <https://youtu.be/sg6O4KtF8G0>

However, if you wish to attend in person it would be most helpful if, on this occasion, you could indicate in advance that it is your intention to do so. This can be done by emailing committees@norfolk.gov.uk where we will ask you to provide your name, address and details of how we can contact you (in the event of a Covid-19 outbreak). Please note that public seating will be limited.

Councillors and Officers attending the meeting will be taking a lateral flow test in advance. They will also be required to wear face masks when they are moving around the room but may remove them once seated. We would like to request that anyone attending the meeting does the same to help make the event safe for all those attending. Information about symptom-free testing is available [here](#).

Committee Membership

Voting Members:

Cllr Martin Wilby (Chair)
Cllr Andy Grant (Vice Chair)
Cllr Graham Plant

Non-Voting Members:

Cllr Brian Long
Cllr Eric Vardy
Cllr Mike Sands
Cllr Steve Riley
Cllr Paul Neile

For further details and general enquiries about this Agenda please contact the Committee Officer:

[REDACTED] or email committees@norfolk.gov.uk

Under the Council's protocol on the use of media equipment at meetings held in public, this meeting may be filmed, recorded or photographed. Anyone who wishes to do so must inform the Chairman and ensure that it is done in a manner clearly visible to anyone present. The wishes of any individual not to be recorded or filmed must be appropriately respected.

A g e n d a

1. To receive apologies and details of any substitute members attending

2. Minutes of last meeting

To agree the minutes of the meeting held on 3 June 2021

(Page 4)

3. Declarations of Interest

If you have a **Disclosable Pecuniary Interest** in a matter to be considered at the meeting and that interest is on your Register of Interests you must not speak or vote on the matter.

If you have a **Disclosable Pecuniary Interest** in a matter to be considered at the meeting and that interest is not on your Register of Interests you must declare that interest at the meeting and not speak or vote on the matter

In either case you may remain in the room where the meeting is taking place. If you consider that it would be inappropriate in the circumstances to remain in the room, you may leave the room while the matter is dealt with.

If you do not have a Disclosable Pecuniary Interest you may nevertheless have an **Other Interest** in a matter to be discussed if it affects, to a greater extent than others in your division

- Your wellbeing or financial position, or
- that of your family or close friends
- Any body -
 - Exercising functions of a public nature.
 - Directed to charitable purposes; or
 - One of whose principal purposes includes the influence of public opinion or policy (including any political party or trade union);

Of which you are in a position of general control or management.

If that is the case then you must declare such an interest but can speak and vote on the matter.

4. Any items of business the Chairman decides should be considered as a matter of urgency

5. Applications for Development Consent Orders

Report by the Director of Growth and Development

(Page 12)

Tom McCabe
Head of Paid Service
County Hall
Martineau Lane
Norwich
NR1 2DH

Date Agenda Published: 19 August 2021



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Planning and Highways Delegations Committee

Minutes of the Meeting held on 3 June 2021 at 2pm at Norfolk Showground

Voting Members Present:

Cllr Martin Wilby (Chair)	Cabinet Member for Highways and Infrastructure
Cllr Andy Grant (Vice-Chair)	Cabinet Member for Environment and Waste
Cllr Graham Plant	Deputy Leader and Cabinet Member for Growing the Economy

Non-Voting Members Present:

Cllr Brian Long	Planning (Regulatory) Committee Chair
Cllr Paul Neale	Planning (Regulatory) Committee Green Group Spokesperson
Cllr Eric Vardy	Planning (Regulatory) Committee Vice-Chair

Officers Present:

David Cumming	Strategic Transport Team Manager
Stephen Faulkner	Principal Planner (Infrastructure and Growth)
Laura Waters	Senior Planner, Growth and Infrastructure

1 Apologies for Absence

1.1 No apologies were received; Cllr Steve Riley and Cllr Mike Sands were absent.

2. Election of Chair

2.1 Cllr Martin Wilby was duly elected as Chair for the ensuing Council year.

3. Election of Vice-Chair

3.1 Cllr Grant was duly elected as Vice-Chair for the ensuing Council year.

4. Minutes

4.1 The minutes of the meeting held on 23 February 2021 were agreed as an accurate record.

5. Declarations of Interest

5.1 There were no interests declared.

6. Urgent Business

6.1 There was no urgent business discussed.

7. A47 North Tuddenham to Easton dualling

7.1.1 The Committee received the report detailing the opportunity to submit representations to the Planning Inspectorate on a proposal by Highways England to dual the A47 between North Tuddenham and Easton. The proposal was deemed to be a Nationally Significant Infrastructure Project. Highways England's application for development consent would be determined by the Secretary of State.

7.1.2 The Strategic Transport Team Manager introduced the report to the Committee:

- The proposed scheme followed an alignment south of the A47 at the western end and predominantly north at the eastern end and would complete dualling from Dereham to the Southern Bypass.
- The Junction at Fox Lane in Hockering would include an overbridge allowing access to the village at the western end.
- The scheme included provision for walkers and cyclists including an east west link.
- This dualling scheme was in a similar geographic location to the Norwich Western Link development and in terms of timescale of completion. The Norwich Western Link was proposed to go ahead via the Wood Lane Junction, shown in appendix B of the report.
- Comments on the proposals were included in the report and it was recommended that Members of the Committee agreed these as part of the representation to the submission from NCC.
- Important points to consider were:
 - Traffic issues on the local road network due to changes brought about by the dualling. These would be mitigated by the Norwich Western Link, but the council would want to see an agreed mitigation plan if this development did not go ahead or were to be delayed;
 - Connections to the food enterprise park as detailed in the report;
 - Norfolk County Council taking on responsibility for part of the de-trunked asset as detailed in the report. No agreement had been made to accept the Highways England assets and further research would be carried out before a decision was made.
- All Local Members to the application area were contacted pre- and post-election for detailed comments and none were received.

7.2

The following points were discussed and noted:

- The Cabinet Member for Growing the Economy queried the de-trunked section of road; he requested that officers ensure this part of the road was as high quality as possible if taken on as an asset by NCC, to reduce the cost of upkeep for the Council.
- The Cabinet Member for Growing the Economy agreed with local users' concerns set out in the report that temporary measures to be put in place for cycle tracks on Wood Lane may become long term measures.
- A Member noted that the scheme documentation showed two way annual traffic flow on the A47 between Hockering and Honingham was modest compared to the rest of the network and other parts of the UK, and that other studies of the A47 showed traffic between Easton and Tuddenham was mostly local. The member queried why data used to develop the scheme was taken from traffic surveys pre-dating the Covid-19 pandemic when it was likely that the pandemic would cause long term changes to travel habits. The Member felt this could leave decisions open to legal challenge. The Strategic Transport Team Manager replied that officers were happy there were robust traffic models in

place the robustness of which would be examined as part of the DCO application by Highways England.

- A Committee Member was concerned about a possible increase in greenhouse gases which may be caused by the scheme by an increase in road capacity facilitating an increase in traffic. The Strategic Transport Team Manager replied that the proposed representation in the report flagged up issues around carbon emissions and climate change and discussed the environmental policy adopted by the Council in 2019. There was a challenging target in place on carbon neutrality by 2030 and officers would work with Highways England to identify how they would work with the Council towards this target.
- The Cabinet Member for Growing the Economy highlighted information in the final paragraph on page 40 of the report setting out that “no significant effects as a result of climate change are anticipated” but that “this will be reviewed when updated climate projections become available”. The Cabinet Member noted that increasing use of electric cars and reduced use of petrol and diesel cars over the coming years would also have a positive impact on carbon emissions.
- A Committee Member pointed out the issue of queues on the A47 which resulted in cars idling, increasing car emissions and reducing air quality. The Strategic Transport Team Manager agreed that the scheme would reduce queuing on this stretch of road.
- The Chairman noted that the scheme would improve journey times, support Norfolk’s economy, especially following the Covid-19 pandemic and would improve road safety and noted that MPs supported dualling of the A47.
- A Committee member asked if the assessment that carbon emissions would reduce was evidence based. The Cabinet Member for Growing the Economy highlighted paragraph 3.34 of the report which indicated that the Highways England assessment concluding it was “unlikely that the construction of the scheme would have a significant effect on air quality or affect the UK’s ability to comply with the Air Quality Directive” and that “during the operation of the scheme there would be no significant adverse effects on the air quality at both human and ecological receptors.”

7.3 The Committee **RESOLVED** to:

1. Support the principle of dualling the A47 between North Tuddenham and Easton subject to:
 - (a) The implementation of appropriate highway, historic environment, and surface water conditions / requirements being resolved through the DCO process
 - (b) The detailed comments set out in this report being addressed through the DCO process.
2. Agree the initial representation to the proposal, as set out in the relevant sections of the report.

8. Sheringham and Dudgeon Windfarm Extension Projects Consultation

8.1.1 The Committee received the report setting out proposals for extensions to the Dudgeon and Sheringham Shoal offshore windfarms, which would be determined as a Nationally Significant Infrastructure Project under the Planning Act 2008. Norfolk County Council was a statutory consultee on such projects and therefore had the opportunity to comment at the pre-application stage of the proposals. Responding to such consultations would ensure the County Council’s views were formally considered prior to a final decision being made by the Secretary of State.

8.1.2 The Senior Planner, Growth and Infrastructure, introduced the report to the Committee:

- The project consisted of two extensions covered by one Development Consent Order (DCO) which made landfall at Weybourne with the cable corridor running through to the Norwich Main substation where an additional substation was proposed.
- Equinor had set out that they wanted an integrated approach which was fully supported by Norfolk County Council.
- The proposal would double the generation capacity of the existing windfarms and generate enough power for 825,000 homes.
- The scheme positively contributed towards achieving national decarbonisation targets.
- Section 3 of the report included comments assessing the proposals, in addition to further detailed comments set out in appendix 1; officers were working positively with the applicant to address these matters.
- section 3.9-3.14 set out the ongoing work by officers to advance discussions on Norfolk contributing to the national decarbonisation agenda whilst ensuring positive outcomes for local communities. Officers were meeting with the offshore wind farm developers and National Grid to explore what local benefits can be delivered as part of new infrastructure. Officers had also written to the secretary of state asking for a strategic review of current and future electricity and energy networks.
- At the time of writing the report, due to local elections, it was not possible to engage with Local Members. Since the election Local Members at the landfall site, along the cable corridor and substation site had been consulted on the proposals with no comments received.

8.2 The following points were discussed and noted:

- The Chair hoped that discussions about securing benefits for communities as part of hosting such infrastructure proceeded positively.
- The Cabinet Member for Growing the Economy welcomed the developers aim for an integrated approach to the proposals as this would benefit the planning and infrastructure requirements.
- A Committee Member queried whether business rate retention on renewable energy schemes for District Councils at the location of landfall was still in place. The Principal Planner (Infrastructure and Growth) was not aware of any change in this regard but would find out and circulate to the Committee if there had been any regulatory/legislative changes.
- Discussions about local community benefit were ongoing with Equinor and officers were advocating that this is made part of the DCO process.
- The Vice Chair queried about the opportunity to use the cable corridor as a footpath and cycle way; The Senior Planner, Infrastructure and Growth, agreed to explore this matter with Equinor and report back to the Vice-Chair.
- A Committee Member discussed feedback he had received from communities noting the impact on highways, ecology and the local communities were their main concerns and was pleased to see the report noted that many of these were concerns had been or were in the process of being addressed.
- The Cabinet Member for Growing the Economy noted the benefits to employment creation, both during construction of the project and in the long term.
- A Committee Member noted information in the report stating that the County Council favoured an integrated approach to delivering the proposals as set out by Equinor but was concerned about any potential delay to the project if the integrated approach could not be taken. The Member also queried the future

consultation process and asked if Members will be consulted on the next stages of the application. That authority was being delegated to officers too soon. The Principal Planner clarified that there would be an opportunity once the DCO was submitted to bring this application back to the Committee for more comments; the recommendation set out in this report was for the pre-application stage only.

8.3 The Committee RESOLVED to:

1. To support the principle of these offshore renewable energy proposals, subject to the detailed comments set out in this report and Appendix 1 being resolved through the DCO process; and
2. To delegate any further detailed technical responses needed to officers as part of the above consultation and/or in preparing any further evidence for the Examination of the DCO.

9 A47/A11 Thickthorn Junction

9.1.1 The Committee received the report dealing with an opportunity to submit representations to the Planning Inspectorate on a proposal by Highways England to upgrade the existing A47/A11 Thickthorn Junction. The proposal was deemed to be a Nationally Significant Infrastructure Project (NSIP) and Highways England's application for development consent would be determined by the Secretary of State.

9.1.2 The Strategic Transport Team Manager introduced the report to the Committee:

- Improvements were designed to tackle congestion at the existing junction by providing a new link to take major traffic flows from and to London and Great Yarmouth.
- New infrastructure would also link Cantley Lane South to the B1172 to Hethersett; access was currently onto the slip-road at the junction. This would not be part of the new trunk road network and would be taken on as a new asset by Norfolk County Council. The Council did not support this new link being a B class road as this would encourage more traffic to use it, but instead would prefer it to be class C or U.
- When taking the new link road on as a new asset, officers were asking for a commuted sum for maintenance.
- Officers had contacted local Members for comments, and none had been received.

9.2 The following points were discussed and noted:

- The Cabinet Member for Growing the Economy was in support of the proposals set out in the report, noting that the improvements would increase traffic flow at the junction via a direct route to Great Yarmouth, helping to improve air quality and supporting Norfolk's economy.
- A Committee Member felt that this work was essential infrastructure given the long queues often seen at this location and agreed that the improvements would improve air quality and traffic flow.
- A Committee Member asked how many veteran trees would be affected by this scheme and if land was being set aside to plant trees elsewhere. The Strategic Transport Team Manager agreed to confirm this information and circulate to the Committee.

- Cllr Neale asked for his statement in objection to this scheme to be appended to the minutes; please see appendix A.
- The Cabinet Member for Growing the Economy addressed the comments made by Cllr Neale by commenting that the Broadland Northway took traffic around the city instead of through it, resulting in a freer flow of traffic. The Cabinet Member pointed out that car travel was necessary for many people to travel across the County and this development would increase the ease of travel for emergency services, buses, residents and visitors to the County's £2.5bn tourism industry. The Cabinet Member discussed plans to plant trees in Norfolk through the Queens Green Canopy and one million trees projects and noted that all trees affected by County Council infrastructure were replaced.
- The Vice-Chair noted that it was not possible to put infrastructure for bus or train travel in all locations in Norfolk meaning that good road infrastructure was required to improve traffic flow and support improved flow of buses.
- The Chair supported the scheme, noting it would have a positive impact on road safety and Norfolk's economy.

9.3 The Committee **RESOLVED** to:

1. **Support** the principle of upgrading the existing A47/A11 Thickthorn Junction subject to:
 - (a) The implementation of appropriate highway, historic environment, and surface water conditions / requirements being resolved through the DCO process
 - (b) The detailed comments set out in this report being addressed through the DCO process.
2. **Agree** the initial representation to the proposal, as set out in the relevant sections of the report.

The meeting ended at 15:20

CHAIRMAN



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Appendix A

Statement by Cllr Paul Neale

It seems to me that the committee members have missed the elephant in the room and only addressed the car-county issue. When Highways England as the highways agency first proposed improvements to Thickthorn junction they suggested a scheme primarily assisting buses serving new housing along the A11 corridor as part of the development of a bus rapid transit network for Greater Norwich by 2026 but NCC did not want a sustainable transport solution, they wanted to increase the traffic carrying capacity of Thickthorn junction to accommodate more short distance single occupant car commuters living in Attleborough, Wymondham and Hethersett, to name a few.

They wanted to enable more car drivers in Norwich to make short car journeys using the southern bypass as a local distributor road. This heavily over engineered scheme plan based on pre-Covid travel plan patterns which will be so highly damaging to the local and global environment is the outcome.

In addition, the County Council want to expand Thickthorn park and ride onto more countryside. But why not improve the bus services along the A11 corridor so that drivers can leave their cars at home and bus all the way?

Regrettably, the County Council has made limited progress on its promise in the joint core strategy to develop a bus network. The county council raised £205m for the NDR but has secured very little for the bus rapid transport costed at £140m in 2008.

The £32m from the Government's Transforming Cities Fund for sustainable transport will not go far enough and in any case the county wants to spend some of the money on schemes such as Thickthorn park and ride and improving traffic flow at roundabouts. The traffic network would be extensively expanded to accommodate most tourists at the expense of vulnerable road users by replacing the current over bridge for pedestrians and cyclists across the southern bypass to Cantley Lane with a new link road to this attractive, quiet and safe rural road for cyclists between Norwich and Wymondham would become an alternative route for drivers and its wide road would encourage fast driving to the detriment of cyclists

This scheme would fragment or concrete over ancient countryside around Norwich that includes woodland, mature hedgerows parkland and small streams and ponds. It would strip an extensive area of biodiversity that includes the permanent loss of aquatic environment at Cantley stream through realignment. Water-voles, otters, bats, barn owls, reptiles and other scarce wildlife would be drive out. Valuable habitat that would be lost include veteran oaks. Saplings cannot offset carbon emissions or replace the loss of veteran oaks housing 2-300 species. It would confirm yet again that the UK is one of the most nature depleted countries in the world ranking 193 out of 280 countries.

Norfolk is planning to plant 1m trees but that only accounts for less than 1 tree per acre. This is just one of four road schemes being planned around the outskirts of Norwich; their cumulative impact will see the replacement of complex habitats with concrete making the city region even less biodiverse and hotter places to live. today the un is urging political leaders that the wold must rewild on a massive scale to heal nature and climate. It is a warning that existing conservation efforts are not sufficient to prevent widespread biodiversity loss and ecosystem collapse but in Norfolk our decision makers are showing

their indifference by voting to destroy what little nature we have left so they can keep on building a car county

I urge you to think carefully and to vote against this spaghetti junction.

Report to Planning and Highway Delegations Committee

Item No 12.

Report title: Applications for Development Consent Orders

Date of meeting: 27 August 2021

Responsible Cabinet Member: Cllr Wilby (Cabinet Member for Highways, Transport and Infrastructure)

Responsible Director: Vince Muspratt Director Growth and Development

Is this a key decision? No

Executive Summary

This report deals with an opportunity to submit Written Representations to the Planning Inspectorate on proposal by Highways England to upgrade the A47 as part of the Planning Inspectorate's examination of Highways England's proposals, and on the future Development Consent Order (DCO) application for the Sheringham and Dudgeon Windfarm Extension Projects, due to be submitted to the Planning Inspectorate in Q3 2021. The proposals are deemed to be Nationally Significant Infrastructure Projects (NSIPs) and applications for development consent will be determined by the Secretary of State.

Planning and Highways Delegations Committee previously considered the matters at their meeting of 3 June 2021, agreeing initial formal representations on the merits of the proposals for A47 North Tuddenham to Easton and A47/A11 Thickthorn Junction prior to the statutory Examination as part of formal Development Consent Order (DCO) consultations under Section 56 of the Planning Act 2008. This is an opportunity to refine and expand upon those initial representations in Written Representations and also in Local Impact Reports as part of the Examination process.

In June, Members agreed support for both projects, and agreed representations on a number of detailed issues in respect of, amongst other things, local highway and access matters, flood risk and environmental management that would need to be resolved ahead of any final decision on the DCO application for the proposed schemes. These representations were made by the county council in its role as one of the host local authorities for the scheme. Separate representations were agreed by the Cabinet Member for Highways, Transport and Infrastructure on 16 June 2021 to be submitted to the A47 North Tuddenham to Easton scheme by the council in its role as promoter of the Norwich Western Link project.

Officers have continued to liaise with the applicant Highways England to resolve these matters. Since June, a small number of suggested changes to content of the previous representations agreed have been considered to be required, as well as changes to the previously approved representations to the formal pre-application consultation to the Sheringham and Dudgeon Windfarm Extension Projects also reported to the Planning and Highways Delegations Committee meeting of 3 June 2021, and it is these changes that Members are being requested to agree.

The previous representations as agreed, but including the proposed changes, would be submitted to the Planning Inspectorate as Written Representations / Local Impact Reports for each A47 scheme, submitted by the county council as a host local authority. In the case of

the Sheringham and Dudgeon Windfarm Extension Projects these changes would be submitted to the Planning Inspectorate by officers as part of the next stage of the consultation process. These changes are shown in the appendices (for the A47 projects) and summarised below in Section 3.

Recommendations

- 1. Agree Written Representations / Local Impact Reports for the applications for Development Consent Orders on the A47, as set out in the relevant appendices.**
- 2. Agree amendments to previously agreed wording for Sheringham and Dudgeon Windfarm Extension Projects to be submitted to the Planning Inspectorate as part of the next stage of the consultation process.**

1. Background and Purpose

- 1.1. Highways England has submitted Development Consent Order (DCO) applications for upgrading the existing A47 between Blofield and Burlingham, and North Tuddenham to Easton, and at A11 Thickethorn Junction. These will be determined by the Secretary of State. The applications are defined as Nationally Significant Infrastructure Projects (NSIPs) under the Planning Act 2008. The DCO applications are now being handled by the Planning Inspectorate under the above Act.
- 1.2. These matters were considered by Planning and Highways Delegation Committee on 23 February 2021 (Blofield to Burlingham) and 3 June 2021 (Thickethorn and North Tuddenham to Easton). Members agreed representations on each project and were advised that the county council would be able to submit a Local Impact Report (LIR) under Section 60(3) of the Act ahead of the Examinations, providing further details and evidence in respect of the application's overall impact on the county council's function.
- 1.3. A number of matters have come to light since Members considered the applications, which it would be useful to incorporate into the Written Representations and Local Impact Reports for the North Tuddenham to Easton and Thickethorn proposals; the Blofield to Burlingham representation already having been submitted and the Examination Hearings started.
- 1.4. This report asks Members to agree revisions to the representations agreed previously for these two schemes, which will be included in the respective Written Representations.
- 1.5. The county council is a statutory consultee and can make comments on the DCO application and the supporting Environmental Impact Assessment (EIA) / Environmental Statement (ES). The full applications, together with the supporting documents can be found on the Planning Inspectorate's website.
- 1.6. In considering the changes to the previously approved representations for the A47, the county council has also considered the representations that were proposed to respond to the formal pre-application consultation to the Sheringham and Dudgeon Windfarm Extension Projects and were presented pursuant to item no. 8 of the agenda of the 3 June meeting of this committee. Some amendments to that agreed wording are

therefore proposed as part of this report and the corrections would be submitted to the Planning Inspectorate as part of the next stage of consultation.

2. Proposals

- 2.1. Members are asked to agree comments in relation to Development Consent Order applications for A47 dualling between North Tuddenham and Easton, and upgrading the existing A47/A11 Thickthorn Junction. These comments will be included in the Written Representations that the council will submit to the Planning Inspectorate on each scheme in due course. Members are also asked to agree amendments to the previously agreed wording for Sheringham and Dudgeon Windfarm Extension Projects. This to be submitted to the Planning Inspectorate as part of the next stage of the consultation process.
- 2.2. The proposals contained within the DCO applications were set out in detail in the previous reports to Planning and Highways Delegation on 2 June. In summary, they comprise:
 - North Tuddenham to Easton: A new dual carriageway between North Tuddenham and Easton, running to the south of the existing A47 at Hockering and north of the existing A47 at Honingham, including new or revised junction arrangements throughout.
 - Thickthorn Junction: A new free-flowing connector road between the A11 northbound and the A47 eastbound (ie to connect the two trunk roads directly for traffic travelling from the London to Gt Yarmouth directions). The new connector road will re-route traffic away from the junction via a new underpass. The existing footbridge over the A47, east of the existing junction, will be removed and a new footbridge for walkers, cyclists and horse riders will be provided.
 - Sheringham and Dudgeon Windfarm Extension Projects: To extend the existing Dudgeon and Sheringham Shoal offshore wind farms comprising up to 56 turbines and ancillary onshore supporting infrastructure including buried cable route (approximately 62 km) and construction of a new sub-station near the existing Norwich Main sub-station.
- 2.3. Members are asked to agree the content of the Written Representations and to the amendment to the formal pre-application consultation response to Sheringham and Dudgeon Windfarm Extension. These will be as per the representations to the proposals agreed by Members in June, but incorporating the updates and changes as set out in the relevant sections of this report.
- 2.4. The two appendices show the exact changes proposed for the A47 projects.

3. Impact of the Proposal

- 3.1 The principal role of the county council in responding to the above proposals is in respect of the Authority's statutory role as:
 - Highways Authority
 - Minerals and Waste Planning Authority
 - Lead Local Flood Authority (LLFA)
 - Having Public Health responsibilities.

- 3.2 In addition, the county council has an advisory environmental role and economic development function, which also need to feed into any response made to the proposals.
- 3.3 The following sections go through the proposed updates or changes in turn.

A47 North Tuddenham to Easton

The representation considered by Members of Planning and Highways Delegation in June included comments in relation to biodiversity. Members are asked to agree an update to the agreed representation for inclusion in the Written Representation. The proposed changes are set out in paragraph 4.12.1 of the draft Written Representation for Easton to Tuddenham, included as Appendix A.

The reason for this change is to highlight the known barbastelle maternity colony at ROARR! Dinosaur Park; the importance of using Core Sustainance Zones for bats when determining the Zone of Influence and preparing the cumulative effects assessment; and to ensure that Highways England's cumulative effects assessments accounts for the Norwich Western Link and development proposals at ROARR! Dinosaur Park.

The DCO applications set out requirements for surface and foul water drainage. The Lead Local Flood and Water Team (LLFA) consider that there is an issue regarding the DCO requirements (akin to planning conditions) proposed by Highways England for surface and foul water drainage. The LLFA consider that this could usefully include naming the appropriate organisations rather than the planning authority, which does not normally have involvement in this aspect. An additional section of text, as shown at 4.17.2 in Appendix A, is proposed.

The applications had no mention of the ordinary watercourse consenting process. Therefore, additional wording is proposed to be included in the DCO. This is set out in 4.17.3 in Appendix A. (Note that the changes Members are being requested to agree are shown as tracked changes in the Appendix for ease of reference. The submission would not show the tracked changes.)

The LLFA also note that there is no mention of the need to involve the LLFA in relation to the review of the temporary surface water drainage plan as part of the Environmental Management Plan, which should be addressed by adding it as a requirement of the DCO. This suggested addition is shown in 4.17.4 in Appendix A.

A47/A11 Thickthorn Junction

The representation considered by Members of Planning and Highways Delegation in June included comments in relation to biodiversity. This has been updated to correct a number of factual errors and omissions in relation to the commentary relating to bats, specifically:

- To reflect more accurately the statements made in paragraph 8.4.20 of the A47 North Tuddenham to Easton Environmental Statement, Chapter 8, Biodiversity, in terms of how information has been shared between Norfolk County Council and Highways England in relation to barbastelle bat locations associated with the Norwich Western Link and the Norwich Northern Distributor Road (Broadland Northway). In particular, the incorrect statement that "Woods used by these barbastelle bats (eg the Ringland Hills, Hall Hills) are located within 6km CSZ (Core Sustainance Zones) of the proposed A47 Thickthorn Roundabout improvements" has been deleted, on the basis that both of these two woodland sites are located beyond the 6km CSZ of the proposed A47 Thickthorn Roundabout

- To make it clear that it is Dr Charlotte Packman (of Wild Wings Ecology), as distinct from the county council, who “believes that there is a nationally significant breeding barbastelle colony of over 150 bats in this area”
- To explain that, to date, no survey data has been shared with Norfolk County Council or otherwise published by Dr Packman to provide supporting evidence which would substantiate Dr Packman’s belief that there is a nationally significant breeding barbastelle bat colony in the area
- To confirm that, currently, the area is not formally designated as an SSSI or SAC on the basis of the presence of barbastelle bats, and nor has it been selected for assessment by the Joint Nature Conservation Committee and, as such, it does not have the status of a notified SSSI or a possible SAC (pSAC).

Members are therefore asked to agree an update to the agreed representation for inclusion in the Written Representation. The proposed changes are set out in section 4.10.1 of the draft Written Representation for A47/A11 Thickthorn Junction, included as Appendix B. (Note that the changes Members are being requested to agree are shown as tracked changes in the Appendix for ease of reference. The submission would not show the tracked changes.)

The LLFA consider that the DCO for Thickthorn should include the same provisions as have been suggested for Easton to Tuddenham, as set out in Sections 3.5-3.7 above. Therefore, additional wording is proposed to be included in the DCO. This is set out in Sections 4.15.2-4.15.4 in Appendix B.

Sheringham and Dudgeon Windfarm Extension Projects

The draft consultation response, in responding on ecology matters should be updated at paragraph 3.41 (of the report to the 3 June meeting of the Planning and Highways Delegation Committee) to properly introduce the role of Dr Packman’s research in the context of the county council’s ongoing ecology survey work.

Members are therefore asked to agree that Paragraph 3.41 of the report to the 3 June meeting of the Planning and Highways Delegation Committee be amended so it reads as follows:

- If they have not already been contacted, WSP and Dr Charlotte Packman should be consulted with regards to their respective ongoing survey work investigating the presence of barbastelle bat colony in the Easton/Ringland/Lenwade area. Upon submission of the application to the Planning Inspectorate we would request that species records are shared with Norfolk Biodiversity Information Service.
- Careful consideration needs to be given to the cumulative impacts as Dr Charlotte Packman asserts that research currently being undertaken indicates that this area is likely to be of national importance for barbastelle bats (the survey data supporting her assertions are not publicly available at the present time).

4. Evidence and Reasons for Decision

- 4.1 Submitting the Written Representations as suggested will enable the county council’s detailed points on the proposed schemes to be considered and taken into account during the Development Consent Order process prior to final decisions being made by the Secretary of State. This will help to bring forward the best schemes, measures that the county council supports due to their benefits, as set out in the reports to the Planning and Highways Delegation Committee on 3 June 2021.

5. Alternative Options

- 5.1 The council could choose not to respond or choose not to amend its comments from what has previously been reported to members, but this will not enable the county council's detailed points on the proposed schemes to be considered and taken into account.

6. Financial Implications

- 6.1 Staff have engaged with the applicants at the technical scoping stage; attending steering group and topic-based meetings and provided technical advice and information in respect of the county council's statutory responsibilities. The county council has charged for some of this advice and technical data provided.
- 6.2 There will be an ongoing future implication for the county council in respect of the transfer of assets to us as the local highways authority as a result of the A47 proposals, should they be delivered. This was set out in the reports to Planning and Highways Delegations Committee on 3 June 2021. No amendments to the comments are proposed on this matter in this report. The representations agreed previously endeavoured to ensure that we reach agreement, based on the condition and number of the assets to generate either a sum of funding to be transferred to Norfolk County Council or the asset brought up to an as new or good condition, prior to any assets being transferred to us in order to minimise any financial risk for the authority.

7. Resource Implications

- 7.1 **Staff:**
Staff resources for dealing with this project are being met from existing resources.
- 7.2 **Property:**
No implications (other than the transfer of highways assets).

8. Other Implications

- 8.3 **Equality Impact Assessment**
These were considered in the main text of the reports to the June meeting of planning and Highways Delegation Committee.
- 8.6 **Sustainability Implications**
These were considered in the main text of the reports to the June meeting of Planning and Highways Delegation Committee. The representations considered by Members in June included comments in relation to these effects including on climate change. Members are not being asked to reconsider these comments, which are set out in the appendices.

Any Other implications

Officers have considered all the implications which members should be aware of. Apart from those listed in the report (above), together with those reported to the June meeting of Planning and Highways Delegation Committee, there are no other implications to take into account.

9. Risk Implications/Assessment

- 9.1 Members are being asked to agree updated comments for submission in response to applications for Development Consent Orders. There is a risk that the responses do

not provide the most up to date, accurate information if responses are submitted with no amendments. Agreeing to update the comments will manage this risk.

10. Select Committee Comments

10.1 N/A.

11. Recommendations

1. **Agree Written Representations / Local Impact Reports for the applications for Development Consent Orders on the A47, as set out in the relevant appendices**
2. **Agree amendments to previously agreed wording for Sheringham and Dudgeon Windfarm Extension Projects to be submitted by officers to the Planning Inspectorate as part of the next stage of the consultation process.**

12. Background Papers

The National Planning Policy Framework:

<https://www.gov.uk/government/publications/national-planning-policy-framework--2>

The Planning Act (2008):

[Planning Act 2008 \(legislation.gov.uk\)](https://www.legislation.gov.uk/ukpga/2008/15)

A47/A11 Thickthorn Junction (2021): Planning Inspectorate website:

[A47/A11 Thickthorn Junction | National Infrastructure Planning \(planninginspectorate.gov.uk\)](https://www.planninginspectorate.gov.uk/a47-a11-thickthorn-junction/)

A47 North Tuddenham to Easton (2021): Planning Inspectorate website:

[A47 North Tuddenham to Easton National Infrastructure Planning \(planninginspectorate.gov.uk\)](https://www.planninginspectorate.gov.uk/a47-north-tuddenham-to-easton/)

Reports to Planning and Highways Delegation Committee 3 June 2021

[Planning and Highways Delegation \(norfolk.gov.uk\)](https://www.norfolk.gov.uk/planning-and-highways-delegation)

Officer Contact

If you have any questions about matters contained in this paper, please get in touch with:

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Norfolk County Council

Written Representation

A47 North Tuddenham to Easton Dualling – submitted
Development Consent Order Application

Identification No. TR010038

Evidence by David Cumming
Strategic Transport Team Manager

August 2021

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Appendix A – Location Map showing the proposed scheme plan

**Appendix B – Location Map showing Wood Lane Junction connection to
Norwich Western Link**

DRAFT

Norfolk County Council – Written Representation

A47 North Tuddenham to Easton Dualling – submitted application

August 2021

1. Introduction

- 1.1. This report sets out Norfolk County Council's position with regard to the submitted Development Consent Order (DCO) application made under section 56 of the Planning Act (2008).
- 1.2. The County Council is a statutory consultee given that the proposed development is a Nationally Significant Infrastructure Project (NSIP) under the above Act and is located:
Between North Tuddenham and Easton, comprising nine kilometres of new dual carriageway running to the south of the existing A47 at Hockering and north of the existing A47 at Honingham. (See Appendix 1, location plan)
- 1.3. The principal role of the County Council in responding to the above proposed dualling application, is in respect of the Authority's statutory role as:
 - Highways Authority;
 - Minerals and Waste Planning Authority;
 - Lead Local Flood Authority; and
 - Public Health responsibilities.
- 1.4. In addition, the County Council have an advisory environmental role and economic development function, which has also fed into the response to the DCO application.
- 1.5. The issues raised below simply relate the County Council's statutory and advisory functions.

2. Background

- 2.1. This is a Development Consent Order (DCO) application for dualling part of the A47, between North Tuddenham to Easton, which will be determined by the Secretary of State. The application is defined as a Nationally Significant Infrastructure Project (NSIP) under the Planning Act 2008.
- 2.2. The County Council responded to the pre-application version of this proposal in March 2020. At that time the Council supported the principle of dualling the A47 between North Tuddenham and Easton, subject to a number of detailed comments being resolved with Highways England.

3. The Proposal – Development Consent Order Application

3.1. The County Council has assessed the proposal on the following basis:

3.2. The proposal comprises nine kilometres of new dual carriageway between North Tuddenham and Easton, running to the south of the existing A47 at Hockering and north of the existing A47 at Honingham.

Once the scheme is opened, it would form part of the A47 trunk road and the wider strategic road network. It would be managed by Highways England. The existing A47 would be de-trunked and become the responsibility of Norfolk County Council.

3.3. **New / amended junctions comprise:**

- Two new junctions where the A47 passes over the local roads: one where Berrys Lane meets Wood Lane (described throughout as Wood Lane Junction) and one where Blind Lane meets Taverham Road (Norwich Road Junction)
- Removal of the existing roundabout at Easton to create a free-flowing A47 road. Access west of Easton would be via the new Wood Lane junction. The Norwich Western Link would also connect at this junction
- Building four bridges for the existing A47 to pass over or under: the new Mattishall Lane Link Road, the proposed Wood Lane junction, the River Tud and the proposed Norwich Road junction
- Two new lay-bys on the A47 between Fox Lane and the proposed Wood Lane junction, and police observation points
- Closure to through traffic of: Church Lane (East Tuddenham), Berrys Lane, Blind Lane and Church Lane (Easton), north of the A47
- Widening of the junction of Rotten Row and Church Lane (East Tuddenham)

Converting sections of the existing A47 for local needs involves:

- Converting to a Class B road north of Honingham, with a new cycle track between, and the new Dereham Road link road and Honingham roundabout

- Reducing to a single lane in front of St Andrews Church, Honingham, with inclusion of passing places, parking places, turning area and security gate

New walking, cycling and public rights of way amenities include:

- A new route for walkers and cyclists linking Honingham with St Andrew’s Church below the A47 via the proposed Honingham Church underpass
- A new route for walkers and cyclists linking Easton with Lower Easton over the A47 via a proposed Easton footbridge

New drainage systems include:

- New outfalls to the River Tud
- Dry culverts to maintain overland flow paths
- New attenuation basins, with pollution control devices, to control discharges to local watercourses

Other details include:

- Compounds, material storage areas and temporary vehicle parking located within the scheme boundary when construction is taking place
- Diverting or installing new utilities infrastructure, such as a high-pressure gas pipeline, electricity cables, water pipelines and electronic communications cables
- Environmental measures embedded into the Proposed Scheme design to reduce the environmental effects and deliver wider benefits, such as noise barriers, low noise road surfaces, permanent mammal crossings and new wetland habitats.

4. Local Impacts

4.1. This section of the report assesses the Environmental Statement (ES) and other supporting documentation in respect of the County Council’s key functions and sets out the Authority’s proposed response / comments.

4.2. Overview

The proposal is outlined in Section 3 and shown in Appendix A. In summary, the proposal is to dual the existing single carriageway section of the A47 between North Tuddenham and Easton. Together with the proposals to dual Blofield to Burlingham, this scheme will result in the A47 being to dual carriageway standard all the way from Dereham to Acle. Highways England is also bringing forward a major improvement at the A47 / A11 Thickthorn Junction, Norwich, and improvements – yet to be devised – at Vauxhall and Harfreys junctions in Great Yarmouth.

4.2.1. Comments

The principle of dualling the A47 is fully supported. This has been a longstanding objective of the county council. The county council leads the A47 Alliance, which has been campaigning for full dualling of the A47 from Lowestoft to the A1 at Peterborough with appropriate grade-separation. The current proposals meet this aspiration, providing a dual-carriageway standard A47 together with grade-separated junctions.

4.3. **De-trunking**

Following completion of the scheme, those parts of the existing A47 that would no longer form part of the trunk road network, for example, the original single carriageway sections of the A47 between North Tuddenham and Easton which will be superseded by the new dual carriageway, would be de-trunked. Responsibility for ongoing management and maintenance would fall to Norfolk County Council as the local highway authority.

Whilst the county council would receive additional maintenance funding through the national grant agreement formula (due to the additional road length being maintained) this is not likely to be of any significance. It would not be sufficient to bring roads or structures up to standard (if they require this). To date we have not been provided with data indicating what assets might require attention in the short to medium term.

4.3.1. **Comments**

No agreement has been made to accept any current Highways England assets and we will not do so until an agreement process including exchange of data and provision of funding regarding assets which may require attention in the short to medium term has been completed.

The agreement should be based on the condition and number of the assets to generate either a sum of funding to be transferred to Norfolk County Council, or the asset brought up to an as new or good condition. The county council would expect to receive a commuted sum, agreed with Highways England, for future maintenance of transferred assets.

4.4. **Norwich Western Link**

This scheme and the county council promoted Norwich Western Link Road (NWL) are in close proximity geographically as well as in their timing. The dualling scheme would provide a connection to the proposed NWL via the Wood Lane junction, as can be seen in Appendix B. In terms of timing, the NWL is programmed to start on site in 2023 with the road completed and open to traffic in late 2025. Easton to Tuddenham dualling is programmed for a start date in 2023 and be open for traffic in 2024.

There has been, and continues to be, extensive dialogue between Highways England and Norfolk County Council as scheme promoters. This has provided an understanding of the two schemes' impacts – both as individual, stand-alone schemes and in combination – and design and construction details where the two schemes physically would join.

The next section details the comments the council is proposing to make on these two aspects. This takes into account that construction of the A47 dualling will have impacts, particularly traffic impacts on the surrounding road network. Some of these would be addressed when the NWL is open to traffic. However, should delivery of the NWL not subsequently come forward, or come forward some time after completion of A47 dualling, it would be expected that any significant issues should be addressed as part of the A47 scheme.

4.4.1. **Comments**

4.4.2. *Non-motorised user (NMU) route across NWL*

The A47 scheme includes a proposed cycle track between the realigned Wood Lane and Hall Farm Underpass. This is shown as looping round the NWL arm of the Wood Lane junction. In discussions with Highways England, Norfolk County Council understands that this is a temporary arrangement and, on completion of the NWL, will be superseded by the permanent facilities being planned as part of the NWL scheme.

The county council considers that this is an acceptable arrangement.

However, we have concern that local users will not appreciate the temporary nature of Highways England's proposals in this area and would expect Norfolk County Council to provide a crossing of the NWL at the proposed A47 Wood Lane junction. This is not supported by the county council.

(Document reference: GENERAL ARRANGEMENT PLANS REGULATION 5(2)(o) SHEET 10 OF 23 HE551489-GTY-LSI-000-DR-CH-31010 The rights of way and access plans – sheet 10)

4.4.3. *Wood Lane junction – single carriageway link*

The link road between the two roundabouts at the Wood Lane junction is proposed as a single carriageway through an underpass beneath the dualled A47. Norfolk County Council has raised concerns about the capacity of this, its possible future long-term capacity and also about its resilience should there be an incident on the underpass.

This part of the network is proposed to form part of the local, non-trunk road network and future maintenance and management would fall to the county council. The county council needs to be assured that its design can accommodate future traffic flows (as it is through an underpass it would be difficult / expensive to widen in the future) and that the network can be properly managed in the event of any incidents occurring in the underpass.

(Document reference: GENERAL ARRANGEMENT PLANS REGULATION 5(2)(o) SHEET 9 OF 23 HE551489-GTY-LSI-000-DR-CH-31009)

4.4.4 *Wood Lane street lighting*

The lighting strategy for the Wood Lane junction has not been sufficiently defined to assess the interface with the NWL. This issue needs to be resolved between Highways England and the county council.

(Document reference: TR010038-000123-3.1 Draft Development Consent Order, page 47 paragraph (d) includes street lighting as further development works.)

4.4.5. *Honingham Lane Stopping Order*

Honingham Lane has been included in the DCO order limits, but it is unclear what orders or works are proposed for this road. It is not listed in the draft DCO. (Document reference: WORKS PLANS REGULATION 5(2)(j) SHEET 21, 22 and 23)

4.4.6. *DCO Order Limits overlap with NWL site extent*

The DCO Order limits at the Wood Lane junction overlap the proposed NWL site extent boundary. Granting of the DCO should ensure that the NWL proposals can be delivered after the DCO is in force.

(Document reference: GENERAL ARRANGEMENT PLANS REGULATION 5(2)(o) SHEET 10 OF 23 HE551489-GTY-LSI-000-DR-CH-31010)

4.4.7. *Wood Lane junction – NWL Arm Order*

The NWL arm of the Wood Lane Junction is not highlighted as a new / improved / altered highway or other road. Also, there is no reference number for this arm therefore it is not clear what order if any is proposed.

(Document reference: TR010038-000208-2.5 Rights of Way and Access Plans, Sheet 9)

4.4.8. *Wood Lane speed limit*

There is an existing 50mph speed limit traffic regulation order along Wood Lane. The proposed link road to the existing Wood Lane should also be restricted to 50mph.

(Document reference: TRAFFIC REGULATIONS PLANS REGULATION 5(2)(o) SHEET 10 OF 23 HE551489-GTY-LSI-000-DR-CH-35010)

4.5. **Highways Impacts**

The highway impacts of the A47 North Tuddenham to Easton Dualling scheme are set out in Development Consent Order (DCO) document 7.1 Case for the Scheme.

4.5.1. With regard to the need for the scheme this document notes that “The main issues for the route relate to capacity; some of the links and junctions are currently over capacity and/or will be over capacity. The limited capacity impacts on the route reliability and creates journey time delays. It also can cause traffic to divert onto the highway network and generate further issues. There are safety issues in certain locations where there are currently high collision and incident rates that could be addressed.”

4.5.2. The DCO report sets out the traffic impact of the scheme on the A47 trunk road and the adjoining roads which are the responsibility of Norfolk County Council. In the main analysis (Core Scenario), these figures assume that the Norwich Western Link (NWL) will be in place because it is classified as "near certain" due to being in government's Large Local Major scheme programme. In order to identify the impacts attributable to the A47 scheme and those due to the NWL alone, the DCO report also sets out a diagram showing the main analysis figures alongside an alternative set with the NWL scheme removed.

4.5.3. From the report it is clear that the combination of both schemes (A47 dualling and the NWL) increases traffic levels on the A47 as they provide more attractive routes and draw traffic from minor roads. The analysis also demonstrates the impacts of the NWL in providing an alternative route around Norwich because at the eastern end of the A47 dualling scheme, traffic levels would increase further if it wasn't for the

4.5.4. NWL.

What is also clear is that with no NWL in place traffic levels on Sandy Lane, Wood Lane and Taverham Road increase due to the A47 dualling scheme. Ringland Parish is concerned about a potential intermediate condition whereby the A47 dualling is complete but the NWL is not. With the removal of the Easton roundabout they are expecting higher traffic from the new junction at Blind Lane / Taverham Road with traffic from the A47 using Taverham Road through to Ringland and beyond to the A1067. To counter this, they have proposed that Honingham Lane south of Ringland is stopped up.

The obvious mitigation measure for these impacts is the NWL. However, we need an understanding with Highways England as to how to deal with the interim situation as it is likely that the A47 dualling scheme will come into operation before the NWL is opened to traffic.

It should also be noted that the county council has been working with Weston Longville to deal with mitigation measures (traffic calming) should the NWL be delayed.

4.5.5 **Comments**

Based on the assessment, Norfolk County Council's principal concern is the interim situation (following opening of the A47 dualling scheme and opening of the proposed NWL) as it is likely that the A47 dualling scheme will come into operation before the NWL is opened to traffic. If this situation does arise, it is proposed that Norfolk County Council and Highways England agree that they will work together to monitor the actual impacts of the introduction of the A47 dualling scheme on the local road network using traffic counts and other appropriate techniques. If it then becomes apparent that interim measures will be required until such time as the NWL is implemented, or if for any reason it is not to be delivered, Norfolk County Council and Highways England agree to work collaboratively using their respective powers to devise and implement appropriate interim measures. The presumption would be that any measures are funded by Highways England as they are essentially a consequence of the A47 scheme.

4.5.6. The county council also has concerns about the scheme's potential impacts on the adjacent Longwater Interchange. Highways England need to present clear evidence that this junction would not be affected by the proposal and – if it is – to propose appropriate mitigation.

4.6. **Food Enterprise Park**

Broadland District Council adopted a Local Development Order for the Food Enterprise Park (FEP). This sets out that development of the site, comprising some 19 hectares, will be permitted for (amongst other things) the following purposes: Agri-tech businesses which make use of the local agri-science base; food technology; processing and manufacturing; and storage and distribution. The LDO sets out that, prior to commencement of development, a scheme of works shall be agreed by Broadland District Council in consultation with the county council and, where appropriate, Highways England. The scheme of works shall include the following, unless otherwise agreed with Broadland, and identify triggers for the implementation of each component:

- Realignment of priority at the junction of Dereham Road / Church Lane
- A right turn Lane from Dereham Road into Church Lane
- A scheme of widening improvements to Church Lane
- Vehicular access to the LDO site either off Church Lane / Red Barn Lane or directly from the A47
- Enhanced footway and cycle facilities to connect with Dereham Road
- The closure of Blind Lane to vehicular traffic.

4.6.1. The proposal from Highways England shows a repositioned Easton roundabout at the junction with Blind Lane (the Taverham Road junction). Blind Lane is however not proposed to be connected into this junction since Highways England propose that it be closed. This is due to local stakeholders' concerns about additional traffic using Blind Lane, and its unsuitability for this, should it be left open. (Berry's Lane, a similar north-south route south of the A47 is also proposed to be closed for similar reasons.) Whilst the new proposed junction arrangements

potentially provide excellent access to the FEP, Highways England's scheme does not currently provide an access, or allow a new access to be constructed from Blind Lane, since this is not proposed to be connected to the roundabout junction. Therefore, whilst the proposed junction is an integral element of delivering the FEP vision an access is not proposed to be delivered at this point by Highways England. Their expectation appears to be that an access would be delivered post-scheme by the FEP at their expense; the likely cost of such an access being potentially significantly higher following the trunk road scheme than it would be today (because it would require not only a connection to Blind Lane to be made but also significant construction work to connect Blind Lane to the proposed new junction).

Discussions with Highways England are ongoing and Highways England are investigating whether such an access could be constructed as a part of the main A47 dualling works. Whilst the additional cost would still be expected to be met by the developer, it is potentially significantly cheaper than undertaking it as a separate scheme post-A47 dualling. To enable this, the FEP would need to secure any necessary consents, such as planning consent, prior to A47 construction.

If an access to the FEP is not provided at this point there is likely to be an unacceptable increase in heavy goods movements through the village of Easton as the result of the FEP not having an appropriate alternative access once the Easton roundabout is closed.

4.6.2.

Comments

The council considers that the proposed arrangements at Blind Lane do not include a suitable access for the Food Enterprise Park (FEP) and do not suggest an alternative for how access might be provided. The FEP is a significant development comprising: Agri-tech businesses which make use of the local agri-science base; food technology; processing and manufacturing; and storage and distribution. A Local Development Order has been granted for the proposal.

The council considers that Highways England should retain the connection of Blind Lane to the A47, via the new roundabout junction south of the A47 forming part of the Taverham Road junction. Blind Lane could be closed at a point to the south if concerns about additional through traffic resulting from the A47 dualling scheme materialise following opening. Such an arrangement could allow the FEP to form an access direct to the A47 at this point. If an access to the FEP is not provided at this point, there is likely to be an unacceptable increase in heavy goods movements through the village of Easton as the result of the FEP not having an appropriate alternative access once the Easton roundabout is closed.

4.7.

Socio-Economic Impacts

There are potentially significant economic benefits arising from the dualling proposal in terms of:

- Local employment creation
- Business sectors affected by construction

- Productivity benefits to businesses, and other wider economic benefits arising from dualling.

4.7.1. **Comments**

The county council would certainly want to see opportunities for inclusive growth and social mobility included in the socio-economic opportunities for Norfolk. We would be willing to work with Highways England or the appropriate agency to support this.

The county council will continue to work proactively with Highways England to encourage apprenticeships, work experience and internships being included at an appropriate stage in the project.

- #### 4.7.2.
- Productivity and other wider economic benefits will arise from the completed schemes. These include journey time savings and reliability improvements, benefitting businesses. These are to be welcomed.

4.8. **Environmental Issues**

An Environmental Statement (ES) has been prepared to accompany the DCO Application. This sets out a description of the proposed scheme and the reasonable alternatives considered in the development of the design, the environmental setting, potential impacts and the likely significant effects of the Proposed Scheme on local communities and the environment, and the measures proposed to mitigate these effects.

The Environmental Statement: Non-Technical Summary provides a summary of the ES in non-technical language. This section considers each of the issues in the non-technical summary in turn.

4.9 **Air Quality**

The Highways England assessment concluded that it is unlikely that the construction of the scheme would have a significant effect on air quality or affect the UK's ability to comply with the Air Quality Directive.

The assessment also concluded that during the operation of the scheme there would be no significant adverse effects on the air quality at both human and ecological receptors.

With no significant effects predicted, no mitigation is required.

4.9.1 **Comments**

The county council supports improvements to air quality and would want to see continued monitoring including in operation of the scheme following construction. The county council would expect the construction phases to be co-ordinated with the appropriate district councils and local highways teams to minimise, for example, dust, construction vehicle emissions (eg from engine idling) and any short-term impacts of increased stationary traffic close to any local populations.

4.10. **Cultural Heritage**

Cultural heritage includes archaeology, historic buildings / structures and historic landscapes including parks and gardens.

The Environmental Statement: Non-Technical Summary sets out that the Proposed Scheme will have both beneficial and adverse effects on cultural heritage, but also states that potential adverse impacts have been reduced or eliminated through the design and mitigation. A programme of archaeological recording and publishing is proposed to mitigate adverse impacts where they could not be avoided.

Residual adverse effects on setting have been identified as a result of construction

and operation activities on the following heritage assets:

- St Peter's Church (NHLE 1305921 Grade I Listed Building) - Moderate
- St Andrew's Church (NHLE 1170701 Grade II* Listed Building) - Large
- Church Farm House (NHLE 1051542 Grade II Listed Building) – Slight
- Berry Hall (NHLE 1396730 Grade II Listed Building) - Slight

Positive impacts are noted as being:

- The setting of the Grade I listed St Michael's Parish Church in Hockering and three other Grade II listed buildings near the existing A47 in Hockering due to moving traffic further away and maintaining an appropriate density of planted screening
- Planned conservation of two mileposts along the route of the existing A47, which Highways England will also propose for listing by Historic England.

4.10.1. **Comments** *Archaeology*

A significant amount of archaeological investigations has already been undertaken in association with the above mentioned scheme. Geophysical survey and archaeological trial trenching have been carried out within most of the 'redline' area of the Proposed Scheme.

Following review of reports on the geophysical survey and trial trenching we agreed an outline scope for post-consent archaeological mitigation with Highways England's archaeological consultant at the end of November last year.

We recommend that that the following requirements are included with the draft DCO:

- 1) No part of the authorised development is to commence until, for that part, a written scheme of investigation of areas of archaeological interest, reflecting the relevant mitigation measures, has been submitted to and approved in writing by the Secretary of State, following consultation by the undertaker with the relevant planning authority;

Norfolk County Council (Historic Environment strategy and advice team); and Historic England on matters related to its function.

2) The authorised development must be carried out in accordance with the scheme referred to in sub-paragraph (1);

3) The authorised development shall not be put into first use until the site investigation and post investigation assessment has been completed in accordance with the programme set out in the scheme referred to in sub-paragraph (1) and the provision to be made for analysis, publication and dissemination of results and archive deposition has been secured.

4.10.2. *Arboriculture*

NB: This section is in reference to document 6.3 Environmental Statement Appendices: Appendix 7.6 – Arboricultural Impact Assessment:

The Arboricultural Impact Assessment (AIA), in accordance with BS5837:2012 'Trees in relation to design, demolition and construction, recommendations' submitted by RSK ADAS Ltd, dated January 2021 is fit for purpose (based on the information provided at the time of survey) with regards to assessing existing tree quality and calculating impacts. The report also gives clear advice with regards to relevant legislation, construction techniques, utility installation and other on-site methodology to mitigate impacts to trees.

However, there are a significant number of category A and B trees designated for removal that should be considered for retention if the road layout changes. By examining the stem diameter measurements in the AIA Tree Survey Schedule and general observation notes, it is likely that a number of these trees are either ancient, veteran or have veteran features.

Ancient and veteran trees can be individual trees or groups of trees within wood pastures, historic parkland, hedgerows, orchards, parks or other areas. They are often found outside ancient woodlands. They are irreplaceable habitats with some or all of the following characteristics (as stated in the .gov.uk guidance note: [Ancient woodland, ancient trees and veteran trees: protecting them from development - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/ancient-woodland-ancient-trees-and-veteran-trees-protecting-them-from-development)):

An ancient tree is exceptionally valuable. Attributes can include its:

- Great age
- Size
- Condition
- Biodiversity value as a result of significant wood decay and the habitat created from the ageing process
- Cultural and heritage value.

Very few trees of any species become ancient.

All ancient trees are veteran trees, but not all veteran trees are ancient. A veteran tree may not be very old, but it has decay features, such as branch death and hollowing. These features contribute to its biodiversity, cultural and heritage value.' The National Planning Policy Framework (NPPF), updated in 2018, includes a provision that "development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons" (paragraph 175c). It is assumed that this development has been classed as 'wholly exceptional', in which case it should:

1. Avoid impacts
2. Reduce (mitigate) impacts
3. And compensate as a last resort.

In reference to document 6.8 Environmental Masterplan:

The Environmental Masterplan details replanting proposals in detail. It is not clear, at this stage, how mitigation planting has been calculated to ensure 'net-gain' will be achieved, although this is currently not required for NSIPs. This requires further clarification.

Trees and woodlands are part of the wider landscape mitigation that will be required and it should be the quality and resilience of the resulting landscape, taking all habitats into account, rather than the number of replacement trees that will dictate whether the mitigation is acceptable. We would expect a minimum 30- year compensation strategy to be submitted, based on a calculation of habitat loss and demonstrating net gain. This strategy would usually include the area surrounding the application boundaries and should consider the following examples:

- Planting of new woodlands, hedgerows with trees, individual and tree groups
- Management plans and schedules to maintain newly planted trees and woodlands
- Connecting woodland and ancient and veteran trees separated by development with green bridges
- Planting individual trees that could become veteran and ancient trees in future
- Management agreements with adjacent landowners to provide or assist with woodland management to improve tree resilience and biodiversity
- Providing management schedules for existing veteran and ancient trees / woodlands nearby
- Extending existing woodland and ancient woodland through natural regeneration / rewilding
- Selective veteranisation of specific trees.

In addition, should the proposals be approved, it should be conditioned and submitted for approval prior to works commencing, that the AIA will be updated to include a:

- Tree Constraints Plan
- Tree Protection Plan
- Arboricultural Method Statement
- Timetable for Implementation of Tree Protection Works.

4.11. **Landscape**

The Landscape and Visual Effects Assessment has identified that during construction there would be a loss of existing trees and hedgerows and a change to the existing agricultural land use. People's views would also be affected, including views of earthworks, construction vehicles and work associated with the installation of overbridges.

During the initial stages of operation, the scheme, including the road, vehicles and structures along the highway, would be visible however once tree and hedgerow planning is established, visibility of the Proposed Scheme and associated landscape features would revert to a state comparable to that of the existing situation.

The assessment concludes that the Proposed Scheme would not result in an overall significant residual effect on the landscape.

4.11.1. **Comments**

In reference to Chapter 7 of the Environmental Assessment – Landscape and Visual Effects:

Norfolk County Council considers that:

- Paragraph 7.2: Suitable expertise is provided for such an assessment.
- Paragraph 7.3.2: Where losses are unavoidable, we would of course support suitable mitigation for these losses. Whilst not required, it would be beneficial to see enhancements that offers Net Biodiversity Gain in line with the upcoming environment bill and Norfolk County Council Environment Policy. It will also be important for the mitigation to be tailored to the areas in which it is being placed, what may be suitable at one end of the road, may not be so suitable at the other end. We support the use of Local Landscape Characters to help identify these changes in the landscape.
- Paragraph 7.4.1: Suitable guidance is being used and adhered to, and we welcome other relevant references being taken account of.
- Paragraph 7.4.5: Comments on Visual Receptors are discussed below.
- Paragraph 7.4.6: Covers a well-considered and range of assessment criteria, it is encouraging to see such things as night/day impacts and perception of the landscape.
- Paragraph 7.4.8: We support the consideration of deeper planting in key location to offer increased screening during winter months when vegetation is not in leaf.
- Paragraph 7.4.10: There appears to be 21 months between Start of construction works and Open for traffic, whilst the estimated

duration of construction is listed as 23 months. This may just need clarification if part of the road is to be opened whilst other parts are still under construction.

- Paragraph 7.4.11: Comments on Cumulative Effects Assessment are discussed below.
- Paragraph 7.4.12: Verified Photomontage Methodology is discussed below.
- Paragraph 7.4.14: We understand and accept the need to amend the scope of the assessment following a review of changes in DMRB LA 107 Landscape and Visual Effects.
- Paragraph 7.4.15: Tables 7-1 and 7-2 lay out the proposed scope in terms of both landscape and visual effects. We broadly agree with the elements which have been scoped in and out of the assessment.
- Paragraph 7.4.16: We also acknowledge the change in guidance on Visual Representation of Development Proposals and are pleased to see that whilst it does not change the approach, that the amended guidance has been considered.
- Paragraph 7.4.18: We are satisfied that the viewpoint locations have been agreed with both Breckland District Council and South Norfolk District Council.
- Paragraph 7.6.2: We are happy with the 1km from DCO boundary study area of the LVIA and the justified reasoning and support the consideration of receptors beyond 1km where deemed necessary.
- Paragraph 7.7.1-7.7.10: We agree with the General Context as laid out within the Baseline conditions. Landscape features including Trees and Hedgerows in the vicinity of the site, and with the potential to be impacted are extensive, and as stated in the AIA, some of these are very high in quality. But it should be noted that even trees of low Arboricultural quality, can still play an important part in the landscape.
 - Paragraph 7.7.17: Landscape Character areas are discussed below.
 - Paragraph 7.7.36 – 7.7.50: We support the representative viewpoints and the reasons for selection. The receptors listed appear to be well considered and justified.
 - Paragraph 7.8.2 – 7.8.5: We note that separation of Construction and Operational Impacts, but wonder if the removal of existing woodland, individual trees and areas of linear highway planting is a consideration during operation as well as the construction phase as even mitigation planting will not offer a direct replacement of what has been lost.
- Paragraph 7.9.1: We support the measures proposed for mitigation during construction.
- Paragraph 7.9.2: The protection and retention of existing vegetation will be imperative to minimise impacts of the scheme, so we fully support the appointment of an Arboricultural consultant. My Arboricultural colleague will be able to comment

on the suitability of the tree protection and standard to be adhered to.

- Paragraph 7.9.6: States the opening year to be 2025, whilst 7.4.10 states it to be October 2024. This should be clarified. All planting and mitigation measures should have taken place prior to opening. Depending on the correct year of opening, the Year 15 date will also need to be altered to reflect this.
- Paragraph 7.10.4 – 7.10.6: There is extensive losses of landscape features and notable tree losses as a result of this scheme. It will be hard to offer replacements at such scale, but mitigation must be well thought out and the locations carefully considered so as to both minimise the visual impacts of the scheme and minimise the landscape scale impacts on a wider scale.
- Paragraph 7.10.9 – 7.10.11: We agree that the overall removal of existing vegetation, earthworks and presence of construction plant, materials, machinery, construction compounds and construction lighting will have an adverse and significant impact on the local landscape character during construction and will, however temporary, change the perception of the area from a tranquil rural landscape to one of much more activity, movement and perceived development.
- Paragraph 7.10.12 – 7.10.15: We broadly agree with the conclusion that the construction period would give way to minor adverse (day) and slight adverse (night) visual impacts. We note the potential for lighting during the winter months, but from the dates are led to assume this will only be one season October 2023-March 2024 which will minimise impacts.
- Paragraph 7.10.16: We broadly agree with the effects on representative viewpoints as laid out in Table 7-8 during the construction phase.
- Paragraph 7.10.39 – 7.10.40: We broadly agree that the initial impact of operation on the landscape character of the area would be significant and of moderate adverse magnitude, decreasing to not significant and slightly adverse magnitude at Year 15.
- Paragraph 7.10.41: The sense of tranquillity lost due to the scheme is notable and would impact the experience of those both living near to the scheme or using recreational routes within the vicinity.
- Paragraph 7.10.49: We note and agree with the conclusions drawn that the visual impacts of night-time effects, it appears that no conclusion is given to day-time effects, but the assessments given for the representative viewpoints are agreeable.
- Paragraph 7.10.53: The residual significant moderate adverse effects in Year 15 at Viewpoint 4 (Sandy Lane Properties beside A47) and Viewpoint E (Church Lane) are of concern.
- Paragraph 7.10.57: The same applies to the residential receptors identified as having significant visual effect in Year 1, and more so those where the effect remains at year 15. Namely R11: Hill View Properties which is identified as large adverse, and R14:

Newgate house, R18: Sycamore Farm Properties, R21/R22: Beside Sandy Lane which are all identified as moderate adverse. Whilst these are not widespread and extensive concerns, they are still impacts that will affect those living in those properties.

- Paragraph 7.10.62 – 7.10.64: Whilst the Year 1 impacts on Footpath receptors are disappointing as these routes will likely be primarily used for their recreational benefit and views, we understand that some impacts are unavoidable. It is however encouraging to see that by Year 15 the new planting will have reduced this impact.

In reference to Chapter 15 – Cumulative Effects Assessment:

(Please note only elements relevant to Landscape and visual effects have been reviewed).

The document has been reviewed for its inclusion of Landscape and Visual consideration, but comments cannot be made on the suitability of the methodology or the suitable qualifications of those who have undertaken the assessment.

- Paragraph 15.3.6: We support the overall ZOI of 4km and note the increase boundary for the ZOI to 2km in relation to Landscape and Visual Impacts.
- Paragraph 15.5.32: States that “An assessment of inter-project cumulative effects has not been undertaken for other environmental topics as no scoping report has been submitted for the proposed Norwich Western Link (NWL) development. This is considered a Tier 3 development under Advice Note Seventeen guidance and it is assumed that the NWL will assess the Proposed Scheme in their coming EIA”, however this is incorrect. A Scoping report can be found on Norfolk County Council Planning Portal under the reference SCO/2020/0001. The Cumulative Effects Assessment should be updated to take account of this, and therefore include an assessment of other topics including Landscape and Visual Impacts.
- Paragraph 15.7.3: The cumulative landscape and visual impacts will need to be reassessed in line with the advice given above regarding the NWL.

In reference to Planning Policy Context (Appendix 7.1):

The document provides a thorough and suitable summary of Planning Policy Context.

In reference to ZTV and Verified Photomontage Methodology (Appendix 7.2):

1.1.3 Suitable methodology has been used and relevant and industry standard best practise and recommendations referred to.

In reference to Landscape Character Areas (Appendix 7.3):

1.1.1 Suitable Landscape Character Studies have been used to conduct this assessment.

It is noted there are a number of areas where the constructional and operational activities will give rise to adverse and significant impacts on the landscape characters of the area the scheme passes through. This is of particular concern where the impacts are concluded to be “large adverse” magnitude of change and “major adverse” significance of effect – such as the construction phase within LCA D2. (paragraph 1.4.12). However, it is noted that construction impacts should be short lived and no more than 23 months in time. This same LCA also has such impacts in Year one of operation, decreasing to minor adverse magnitude of change and slight adverse significance by Year fifteen.

The conclusions drawn from this assessment should be used to inform the Landscape Plan in order to minimise impacts where possible through avoidance and minimisation of impact, and where there is no scope to do this mitigation and compensation should be integrated into the scheme.

In reference to Visual Receptors (Appendix 7.4):

We are happy that the Visual Receptors have been agreed in consultation with the relevant district authorities. We have not undertaken a review of these at this stage.

In reference to Representative Viewpoints (Appendix 7.5):

We are happy that the Viewpoints have been agreed in consultation with the relevant district authorities. We have not undertaken a review of the viewpoints at this stage. 1.1.2 I have been unable to locate: Figure 8.4 (Visual Context) (TR010038/APP/6.2)

In reference to Arboriculture Impact Assessment (Appendix 7.6):

(Please note for these comments, this has only been reviewed from a Landscape perspective and not in relation to Arboricultural expertise – see Norfolk County Council Arboricultural Comments)

The AIA appears to conform to industry standards and be fit for purpose. There are a considerable number of large trees proposed for removal. We would of course, in the first instance prefer to see these trees retained where possible, and amendments made to the scheme to allow the retention of more trees. Trees in such large numbers play an

important part in the wider landscape and act as features seen from great distances. Where the retention of trees is not possible, then suitable mitigation in line with Norfolk County Council's tree policy would be our next expectation. Whilst this will not replace the loss of mature and veteran trees, it will form the foundation of the future landscape. The location of such trees, tree belts, hedges and woodland should be carefully chosen to not just screen the development, but also be reflective and respectful of the wider landscape.

In reference to the Environmental Masterplan TR010038/APP/6.8:

(Please note this has been viewed at a strategic level, there is no easy way to navigate the document at such a scale digitally with no location plan and I have no means to print a copy of the full plans at a legible scale)

The plans provide detailed proposals for the landscaping of the scheme. Further planting specification and planting details will be required, as well as management plans for the establishment and long-term maintenance of the various landscaping, landscape features and landscaped elements. Detailed design may be required for some elements when specifications are confirmed further during the process.

4.12.

Biodiversity

The Environmental Statement Non-Technical Summary notes that there are valuable habitats and species of nature conservation importance that could be adversely affected by the proposed scheme and that, although avoidance of impacting trees and hedgerows was a key consideration throughout the design stage, there will be some areas of these habitats that will need to be lost.

The summary states that mitigation measures have been identified to safeguard the conservation status of wildlife populations through both the construction and operational phases.

The summary identifies potential unmitigated impacts of the proposed works as being the loss of nesting, roosting, resting, commuting and foraging habitat for a range of protected and notable species. Mitigation measures will be implemented during the construction and operational stages to reduce the effects of the scheme on individuals and populations of such protected and notable species.

The summary states that following the implementation of the mitigation measures during construction and operation, there would be residual significant effects on barn owls, this significant effect would be until agreements are in place with landowners to place suitable nest boxes, and bats.

Also following mitigation, there will be a moderate adverse residual effect on hedgerows, deciduous woodlands, and grazing marsh as a

result of the long maturity period for planting; grasslands and ponds will however have a slight beneficial effect.

4.12.1. **Comments**

In reference to the age of survey data:

Some of the survey data collected is considered out of date in accordance with the Chartered Institute of Ecology and Environmental Management's (CIEEM's) advice note on the lifespan of ecological reports and surveys (CIEEM; 2019). Norfolk Biodiversity Information Service (NBIS) were consulted for records of designated sites and protected and notable species in 2017 and for designated sites again in 2020. We recommend that the applicant fully updates the desktop study with protected species data too.

In reference to the site boundary:

The site boundary has been amended since some of the surveys have been undertaken and therefore some of the reports need updating in-line with the current proposals.

In reference to survey areas:

The Zone of Influence (Zoi) (the distance over which the proposed scheme might affect protected species) varies for different ecological features (e.g. bats and plants depending on their sensitivity to environmental change (CIEEM, 2018). Importantly it also differs between genus. For bats the Zoi for bat activity and roost surveys (see Table 8.2 of Chapter 8 of the ES) should be informed by the Bat Conservation Trust's Core Sustenance Zones (CSZ). (CSZ refers to the area surrounding a communal bat roost within which habitat availability and quality will have a significant influence on the resilience and conservation status of the colony using the roost.' (Bat Conservation Trust, 2021)).

Similarly, in line with CIEEM (2019) guidelines on EclA, the ES should consider the known barbastelle maternity colony at ROARR! Dinosaur Park/Morton-on-the-Hill, which uses the woods between the A47 at Easton/North Tuddenham in the south, and the A1067 Fakenham Road to the north.

~~The bat activity survey area (all species) was up to 1km from the DCO boundary. As previously stated in comments in response to the Preliminary Environmental Information Report (PEIR) document bat survey work should consider in combination impacts with the Norwich Western Link and it should be acknowledged that core sustenance zones for bats varies with species (6km for barbastelles). It should be noted that the Core Sustenance Zones for Barbastelle bats is 6km away and there is moderate confidence in zone size. There is a known colony of bats at Morton-on-the-Hill which is less than 6km from the site.~~

In reference to in combination impacts

The CSZ for bats should, in line with BCT recommendations, inform the Zone of Influence for the Cumulative Effects Assessment (CEA).

As previously stated in comments in response to the Preliminary Environmental Information Report (PEIR) the CEA should consider cumulative effects on ecological receptors in combination with the Norwich Western Link.

4.12.2. Please also note that a request for an EIA Scoping Opinion (reference 20211198) has been submitted to Broadland District Council for an extension to the Roarr! Dinosaur Adventure Park, and should be considered within the CEA.

In reference to mitigation measures:

The applicant states in their biodiversity statement they have undertaken their assessment in accordance with LA 108 Biodiversity and LD 118 Biodiversity design. We recommend asking the applicant to demonstrate that mitigation measures proposed are effective. Section 4.5 of LD 118 Biodiversity design states “only mitigation measures that are effective and proven shall be included in project design”. However, it has not been demonstrated that mitigation measures are effective where proposed, for example “hop overs” are proposed in the bat crossing point report.

In reference to monitoring:

Where monitoring is required, we recommend asking the applicant to outline the following points as detailed in section 4.1.1. of LA 108 Biodiversity:

- 1) monitoring methodology;
- 2) mechanisms for implementation;
- 3) criteria for determining success/failure;
- 4) frequency and duration of monitoring; and
- 5) frequency of reporting.

In reference to Defra Metric 2.0:

Section 8.4.15 of Chapter 8 of the ES states “Biodiversity gains and losses have been assessed by using the Defra metric 2.0, which has informed the proposed mitigation measures to minimise the effects of the Proposed Scheme.” The calculations have not been provided and it is not clear if net gain will be achieved. If there is off-site mitigation/ compensation proposed no details of off-site mitigation/ compensation has been provided.

All reports need to be consistent and the recommendations in Chapter 8 of the Environmental Statement need to be in-line with the recommendations of the targeted botanical and protected species reports.

4.12.3. *Bats*

In reference to the Bat Survey Report (Appendix 8.12):

Section 5 of the Bat Activity Survey Report, Annex E highlights that further transect and static surveys are required to aid confirmation of potential crossing points used by bats, however due to COVID restrictions transect surveys were only undertaken in April 2020. Transect surveys were not carried out in May 2020 and surveys in June comprised of more targeted crossing point activity. Best practice (Collins; 2016) recommends a combination of transects and static surveys.

Transect surveys also have limited ability to identify spatial and temporal variations in bat activity as they are biased towards the dusk period, and where the surveyor is when they encounter a bat. We recommend that there is greater use of static bat detectors to record bat activity within the site/along linear landscape features (see Stahlscmidt & Bruhl, 2012).

Bat Survey report mitigation section 7.1.1. states "CIEEM advise that survey results more than 3 years old are unlikely to be valid (CIEEM, 2019)". It should be noted in accordance with CIEEM's guidance on the age of survey data, where survey data is over 18 months of age, a site visit is required and some or all of the ecological surveys will need updating and also the desktop study data information may also need updating.

There appears to be some uncertainty in Table 5-1 with regards to some of the type of roosts identified for example 'potential maternity' and 'potential day roost', additionally some species remain unidentified. Full impacts on bats cannot be determined until the type of roost and species involved has been identified. The report highlights that a bat licence will determine specific mitigation. Section 4.4- 4.8.LD 118 Biodiversity Design outlines the requirement that mitigation and compensation measures should be specific and proportionate to the nature, magnitude and duration of the impact. However, the proposed mitigation/ compensation measures for impacts on roosting bats has not been provided. Section 7.1.3 refers to "although artificial bat roosting habitat cannot replace the range of natural cavities and features that trees provide, they can create additional roosting opportunities for a variety of species (particularly where no potential existed previously) and boxes can be fitted on trees." It is not clear how many bat boxes, what type, design to mitigate impacts on roosting bats are proposed. Section 8.11.6 of the Chapter Biodiversity document briefly refers to "Schwegler 1FF bat boxes recommended in the licence".

It is noted that thermal imaging equipment was not used during emergence/ re-entry surveys. We previously recommended in our response to the PEIR document the use of infra-red/thermal imaging

equipment when undertaking emergence surveys of the trees to obtain more accurate population counts.

No collision surveys have been undertaken to-date. These surveys could be undertaken to provide a baseline against which changes post - construction can be measured. We would recommend the use of detector dogs, as these have been shown to be significantly more effective at searching for animals than human surveyors.

In reference to the Bat Crossing Point Report (Appendix 8.13):

We previously recommended in our response to the PEIR document the use of infra-red/thermal imaging equipment when undertaking emergence surveys of the trees to obtain more accurate population counts, and the use of IR/TI is also important for identifying the height that bats cross the landscape and collision risk modelling.

It is noted that the use of the thermal imaging scope (Pulsar Helion XP28) was proposed for a minimum of two of the six further surveys at each of the four chosen crossing points, however due to COVID restrictions it was only possible to employ thermal imaging equipment on one survey at crossing points one, seven and nine. It is not clear which element of the COVID restrictions prevented the use of the scope in accordance with the original proposals. That being said, it is not clear why the scope could not be used on every occasion at the survey points.

Section 4.1.2 of the bat crossing points report states “in order to identify any further ‘potential unseen bat crosses’ which may not have been visually observed. Due to visibility limitations as light levels fall during the surveys it becomes harder to see bats and bats may cross the road without being seen (particularly on darker, more overcast nights). This is a common, unmanageable limitation of bat surveys.” However, this would be manageable with the use of thermal imaging equipment as outlined above.

Hop overs and fencing are recommended at bat crossing points, however it has not been demonstrated that this would be an effective mitigation measure to protect bats. Mitigation measures must take into account specific species differences. Many factors are likely to affect levels of use and the ‘attractiveness’ of the proposed mitigation measures for bats, including size, alignment, connection to existing flight lines, roadside vegetation and land use.

The monitoring recommendations in section 5.4 of the bat crossing points report are vague and do not outline the criteria for determining success.

In reference to the Bat Hibernation Report (Appendix 8.11):

Section 8.7.57 of the Biodiversity Chapter states “Between December 2019 and February 2020 further automated detector hibernation surveys were undertaken on [REDACTED]. Results for all ten trees are that hibernacula are likely absent and five trees contained features that could be used as summer roosts and not for hibernation. The five trees were surveyed for summer roosts during 2019. However, Section 5.2.1 of the hibernation survey report highlights that “As it is not possible to conclude with a degree of certainty whether bats are or are not hibernating in trees one, eight and/or nine based upon this data an accurate impact assessment on hibernating bats cannot be undertaken.” The report outlines in section 5.3 of the report that further surveys are required.

4.12.4. *Otters and Water Voles*

In reference to the Otter and Water Vole Survey (Appendix 8.14): Section 4.2.1. states “one potential otter holt was found at Point 3.” The full scale of the impacts on otters has not yet been determined because it is unclear if this is an otter holt.

Section 3.4.1 states “Throughout the survey area, there were sections that could not be surveyed due to the water depth or dense vegetation. These sections were bypassed, and the survey continued in areas that were accessible further along the water courses. This is a significant constraint, as an accurate density of water voles on each water course could not be calculated.” It is not clear if various methods of access were explored to enter the water course, such as a using a boat or using waders was explored.

Area 3c is not shown on the plans showing the results of the surveys in Appendix A.

The report and biodiversity chapter recommends the translocation of water voles in the area where the Proposed Scheme will cross the river to a receptor area that has previously been enhanced with vegetation and allowed to mature so the site is suitable to receive the water voles. The location of the proposed receptor area needs to be provided.

4.12.5. *Reptiles*

In reference to the Reptile Survey Report (Appendix 8.7):

This report, detailing surveys undertaken in 2019, is intended as an update to the reptile survey undertaken by Amey in 2016 (Amey, 2017).

The reptile report states “Field surveys, including one visit to place artificial refugia on site and nine subsequent visits undertaken in May, June, July, August and September to survey the refugia and site for reptiles.” Froglife (1999) Advice Sheet 10 states “to establish presence, generally at least seven visits in suitable weather conditions at the appropriate time of year may be required. For detailed surveys to gain

some idea of relative population size or to identify key areas, at least 20 visits per season, in suitable weather, are recommended". However, eight survey visits were undertaken in Area B to determine population size.

4.12.6. *Barn Owls*

In reference to the Barn Owl Survey Report (Appendix 8.9):

Table 6.1 highlights that the development will result in the loss of a breeding site at location 5, however elsewhere it is stated that a breeding site will only be lost at location 3.

Two alternative barn owl nest boxes to mitigate for the loss of a single nest box at site 3 and five additional nest boxes appear to be proposed in locations less than 1.5km from the A47 road, for example within Type 1 habitat or in areas of created rough grassland. Barn owl boxes must be placed no closer than 1.5km from the road (Shawyer, 2011).

It is noted that the barn owl report recommends "compensatory rough grassland should be created alongside the motorway" to compensate for foraging habitat that will be lost". The report also states, "efforts should also be undertaken to render the roadside verges unsuitable for foraging barn owls, though regular cutting, this will deter them from foraging alongside the carriageway", this contradicts the earlier statement. The recommendations must be consistent. Section 4.5 of LD 118 Biodiversity design states "only mitigation measures that are effective and proven shall be included in project design".

Shawyer, C.R., 2011. Barn Owl *Tyto alba* Survey Methodology and Techniques for use in Ecological Assessment: Developing Best Practice in Survey and Reporting. IEEM, Winchester.

4.12.7. *Birds*

In reference to the Breeding Bird Survey Report (Appendix 8.8) and the Wintering Bird Survey Report (Appendix 8.10):

Section 2.4 highlights that a data search from the National Biodiversity Network (NBN) Atlas was undertaken. A record search of Local Records Centre data does not appear to have been undertaken but instead NBN gateway data is relied upon. NBN gateway data is not necessarily comprehensive or are not at a fine enough resolution to inform local decisions. Some sensitive records (such as rare species data) are not available for public view, and this could result in an erroneous assumption being made that a given species is absent from a particular area.

Whilst web-based sources such as the NBN Atlas, a biodiversity database, provide a useful dataset, these should be used to

complement, rather than as a substitute for, records held by the Local Environmental Records Centre (LERC) or equivalent. In all cases it should be made explicit in the ecological report that a data search has not been undertaken, justification for the absence of a data search should be included, the likelihood of key information being missed as a result should be assessed, and the implications of this clearly set out (CIEEM; 2020).

It is noted that nest boxes are proposed but it is not clear what type of nest boxes. The locations of nest boxes would need to be appropriate and consideration should be given to the increased risk of collision in close proximity to the carriageway.

Section 4.5 of LD 118 Biodiversity design states “only mitigation measures that are effective and proven shall be included in project design”.

CIEEM; March 2020. Guidelines for accessing, using and sharing biodiversity data in the UK. Available at: <https://cieem.net/wp-content/uploads/2016/03/Guidelinesfor-Accessing-and-Using-Biodiversity-Data-March-2020.pdf>

4.12.8. *Terrestrial Invertebrates*

In reference to Terrestrial Invertebrate Survey Report (Appendix 8.3):

No desk study was undertaken as part of the assessment. The report states “It is assumed that a data search will be undertaken as part of the impact assessment at a later stage.” However, an impact assessment including invertebrate records does not appear to have been undertaken.

Further surveys are recommended for Units K,L and RY1, which could not be accessed for survey during 2019 because of continuous livestock presence, these do not appear to have been undertaken yet.

The report states “Three areas of district value for invertebrates were identified – off Church Lane, East Tuddenham (Unit TU), south of Hall Farm, Honingham (Hall Farm Meadows), and off Mattishall Road, Hockering (Unit 88). A further area, Easton Church fields, is considered to be of local value.” The report goes on to state that “Hall Meadows are due to be bisected by the new route of the A47, which will also cross the River Tud. This would represent a major negative impact on this invertebrate habitat, valued at district level, and will therefore require mitigation. The habitats might be more challenging to mitigate, as they are less replaceable than the drier grasslands, and may require offsite compensation. Remaining areas should be managed in order to provide continuity of invertebrate habitat.” However, section 8.7.27 of Biodiversity – Chapter 8 of the ES states “The terrestrial and aquatic invertebrate assembly has been assessed as a biodiversity resource of

local level importance. The reports must be consistent and mitigation/compensation must be effective and proven. There is no mention of off-site compensation for terrestrial invertebrates in Chapter 8 – Biodiversity of the ES.

4.12.9. *Vegetation and trees*

In reference to the Botanical Survey Report (Appendix 8.1):

The botanical report refers “offsite compensation may be required for Unit RYW”, however there is no mention of off-site compensation in Chapter 8 of the ES. It is not clear from the information provided if the entirety of Unit k will be retained. Unit K is woodland on a shoulder of the Tud valley, which has continuously occupied the site since the Tithe map of 1836-1850 and is possibly ancient woodland.

In accordance with section 4.2 of LD 118 Biodiversity design needs to address adverse impacts on biodiversity resources as far as possible through the use of a hierarchical system for the identification and assessment of impacts in accordance with requirements in LA 104. Examples of measures to avoid or prevent impacts include consideration of alternative route corridors, or alternative design options, to avoid sensitive sites. It has not been demonstrated that the mitigation hierarchy has been followed, for example it is not clear if Unit K “could be completely avoided by a relatively minor southward shift in the route” as recommended in the botanical report.

In reference to the Arboricultural Impact Assessment:

We fully support the recommendations of the Arboricultural and Woodland Officer's comments including that the significant number of category A and B trees designated for removal should be considered for retention if the road layout changes. Ancient and veteran trees are irreplaceable habitats.

4.12.10. *Badgers*

In reference to the Badger Survey Report (Appendix 8.15):

There are areas of suitable badger habitat located immediately outside of the survey area. It is not clear why these areas were not included within the survey area given their proximity to the site and their suitability to support badgers.

Natural England's standing advice is that sett entrances must be monitored over an extended period of time, eg up to 4 weeks, to see if they're active. The setts were not monitored in accordance with Natural England's advice on survey effort therefore it is not possible to have confidence in the results provided to date. There are several setts that are listed as partially active in sections 4.1.1 of the report and in Table

4.1.17 and therefore it is not clear if these setts are active or disused. Further surveys were recommended at one of the setts, however this survey work has not yet been undertaken.

Section 3.2.2 and 3.2.3 highlights that some areas of the survey area were not surveyed and were inaccessible. The ecologist must attempt to gain access to these areas to survey for badgers.

It is not clear from the information in the biodiversity chapter or the badger survey report the impacts on any setts identified and the mitigation measures proposed. The details provided in the badger survey report do not match the details provided in the biodiversity chapter. The proposed locations of badger underpasses have also not been provided.

Sett 13 is marked on Appendix A as disused, however it is stated within the report that this is a 'potential sett'.

4.12.11. *Designated Sites and Priority Habitats*

County Wildlife Sites must be shown on Figure 8.1. The Biodiversity Chapter outlines potential indirect impacts on County Wildlife Sites, however from the information provided including the Environmental Master Plan some of the County Wildlife Sites appear to be directly impacted by the proposed works, for example there is a drainage feature proposed in a section of Brook House Marshes CWS.

4.12.12. *Cumulative Effects Assessment (Chapter 15)*

Section 15.5.32 states "an assessment of inter-project cumulative effects has not been undertaken for other environmental topics as no scoping report has been submitted for the proposed NWL development. This is considered a Tier 3 development under Advice Note Seventeen guidance and it is assumed that the NWL will assess the Proposed Scheme in their coming EIA." However, a scoping report has been submitted for the Norwich Western Link (planning ref: SCO/2020/0001) which is located on Norfolk County Council's planning portal.

4.13. **Geology and Soils**

No designated geological sites are located in the study area. The land surrounding the Proposed Scheme is mainly agricultural fields with small residential areas dispersed along the existing A47.

The Proposed Scheme would result in permanent land take and temporary land take of Grades 2, 3a, 3b and 4 agricultural land (very good through to poor quality), though the scheme has sought to minimise the areas of land take. The permanent land take from the Proposed Scheme would result in significant residual effects on agricultural soil. A Soil Management Plan will be developed to preserve

the land quality and restore the areas of temporary land take to their previous condition.

Only minor evidence of contamination has been found from historical activities. Therefore, there are no special remedial activities recommended for the Proposed Scheme.

4.13.1. **Comments**

No comments in respect of this particular topic in the submission.

4.14. **Material Assets & Waste**

The assessment concludes that there is not predicted to be any significant environmental effects from the use of material assets and generation of waste during the first year of operational activities due to limited material use and waste generation from infrequent maintenance activities.

Overall, the materials used are predicted to include over 31% of recycled material and over 70% of the material generated will be re-used or recycled.

4.14.1 **Comments**

The comments set out below relate to Norfolk County Council in its capacity as the Minerals and Waste Planning Authority. The comments have been made on the Environmental Statement Appendix 10.3 - Mineral Impact Assessment.

The Mineral Planning Authority (MPA) welcomes the inclusion of a Mineral Impact Assessment as part of the proposed scheme.

The MPA agrees with the summary of mineral resources within the scheme and the constraints which are outlined in paragraph 10.4.4.

The MPA also agrees with the assessment of reuse suitability of site-won materials, as outlined paragraphs 10.6.5-10.6.24. The use of the Specification for Highway Works Series 600 to grade materials for use into classes is considered appropriate.

The MPA notes that an estimate of site won material likely to be extracted during the construction phase is included, for the following superficial geological deposits likely to be encountered.

- Alluvium: 4,450m³ approx 60% class 1, 40% class 2
- Sheringham Cliffs Formation: 29,500m³ approx 60% class 1, 40% class 2
- Lowestoft Formation: 580,000m³ approx 20% class 1, 80% class 2

The MPA recognises that this an estimate and that a full assessment of the reuse potential of material will be required as it is excavated.

Paragraph 10.7.8 states that any opportunity to reuse the excavated material will be taken.

In conclusion, the MPA considers that the Mineral Impact Assessment appropriately assesses the safeguarded mineral resources for the proposed scheme and contains an appropriate strategy for identifying suitable material for reuse in the construction phases of the scheme.

Norfolk County Council, in its capacity as the Mineral Planning Authority considers that if the scheme is required to follow the strategy outlined in the Mineral Impact Assessment this will effectively address mineral safeguarding issues relating to resource sterilisation.

4.15. **Noise and Vibration**

The Environmental Statement Non-Technical Summary notes that there will be sensitive receptors, such as residential homes, near to the proposal, and that receptors that are close to the A47 are already exposed to relatively high noise levels due to road traffic.

The assessment concludes that:

- Significant effects due to construction noise are unlikely however a significant adverse temporary effect is predicted at Acorn Barn due to construction noise from the adjacent drainage works
- Significant effects due to construction vibration are not expected, subject to monitoring and effective implementation of mitigation
- Potential significant effects from construction traffic are unlikely.

At the operational stage there will be a number of significant residual traffic noise effects, both adverse and beneficial. A majority of the beneficial noise effects are due to the expected change in road user behaviour (traffic re-routing) due to the Proposed Scheme.

Significant adverse effects at the majority of receptors are due to traffic re-routing at locations where mitigation is not practical. Adverse effects at the remaining receptors are due to:

- More road users choosing to access the improved A47.
- Significant effects remaining at some locations despite mitigation being included
- Some noise barriers not being provided for receptors far from the proposed scheme where the marginal benefits provided by a noise barrier does not affect the outcome of the assessment

Noise Important Areas are not predicted to experience any significant effects due to the Proposed Scheme.

4.15.1 **Comments**

The county council would expect disruption to be kept to a minimum during the A47 dualling construction period and would want to work with Highways England, or its contractors, on managing traffic during the works.

4.16. **Population and Human Health**

The Environmental Statement Non-Technical Summary notes that the main communities located by the Proposed Scheme include Hockering, Honingham and Easton, with scattered properties along the length of the

Proposed Scheme. The surrounding area is predominantly arable with some areas of woodland used by the community. Paths are mostly located between Hockering and Honingham communities.

The assessment concludes that, during construction:

- Access along the local road network for local residents and businesses across the study area may be disrupted whilst traffic management measures are in place, resulting in longer journey times and a degree of temporary severance
- There would be some adverse amenity effects for human health, specifically in terms of noise, dust and visual intrusion. Mitigation measures would minimise these effects.
- Agricultural holdings within the DCO boundary would experience disruption to farming operations including, in some cases, severance of farm and field access. Where possible, new access arrangements have been designed though these result in longer journey times and requires the removal of mature trees and hedgerows.

Permanent impacts would include:

- Changes in severance for private property and housing, community land, community assts, development land and businesses in the communities of Great Witchingham, Upper Wensum, Mattishall and Easton
- Access arrangements to some private properties and businesses would change, some of which would result in a significant moderate adverse effect
- Permanent land take from a consecrated field adjacent to St Peter's Church, resulting in a significant adverse effect
- Users of footpaths Hockering FP7, Honingham RBI and Ringland Lane / Dog Lane crossing, are anticipated to experience significant residual adverse effects as a result of path closures and journey length increases
- Improved connectivity between Hockering and Easton for pedestrians and cyclists through the provision of a new footway/cycleway and safe crossings as part of the Proposed Scheme
- Permanent agricultural land-take is required which will impact the wider agricultural holdings in different ways, potentially leading to increased costs or a reduction in turnover. Three agricultural holdings would result in permanent significant adverse effects.

4.16.1 **Comments**

In addition to the previous comments on short term impacts of dust and air quality relating to construction process (Section 3.35). In addition, we would want to minimise long term impacts on accessibility to and use of walking, cycling and other active travel routes for the whole local population covering a range of health conditions. We would also want to avoid reduced ability to access, for example, open or wooded space for recreational activity. Additional active travel routes to join up

communities are supported and if the overall proposal has the effect of making active travel appear more attractive in terms of, for example, segregated pathways and / or traffic speed and visibility, we would support this. Use of green or wooded space to mitigate traffic noise and maintain or enhance the cooling effects of such environments would be supported.

Norfolk County Council fully supports the range of improvements and additional walking, cycling and horse-riding (WCH) provision this scheme provides to the A47 corridor in this part of the county, but at the same time feel strongly that there are some very obvious missed opportunities or apparent lack of understanding of the breadth and range of WCH usage that could actually result in increased local and short-distant motor-vehicle usage rather than, as such provision is intended, encourage more cycling and walking as a travel or recreation choice.

Notable aspects of the scheme include the creation of a WCH route the full length of the scheme following the existing A47 corridor from Hall Lane in the west to Dereham Road at Easton. This is a significant increase in east-west WCH facilities providing the opportunity for WCH commuting and travel into Norwich. This is a combination of new provision with existing and local roads, although we are disappointed to note that some existing roads are not to be closed to motor vehicles as originally proposed, although the reasons for this are accepted. The other notable provision is the new WCH overbridge in the location of Easton roundabout providing a grade-separated crossing. Other proposed improvements to crossings, additional sections of segregated WCH routes along existing and new roads, and the diversion and upgrade of a public footpath to a cycle path or bridleway to provide a WCH connection between minor roads are all welcomed as improvements to the county's WCH provision.

We are pleased this scheme is resolving a problematic short public footpath (Hockering FP12) created during the construction of the current A47 through closure but would like to see a solution for a similar situation – Hockering FP11 – put forward. In respect to any PRoW diversions, plans should depict the legal alignment of the PRoW as shown on the Definitive Map and not what is found on the ground, to avoid the creation of short, disconnected, unusable PRoW (as in Hockering FP12) and ensure new facilities on the ground correspond to the legal alignment.

Our main area of concern is that no crossing facility, either by underpass or overbridge in the immediate vicinity of Hockering FP7 is to be provided. The scheme will create a highways maintainable short, potentially inaccessible, cul-de-sac public right of way between the current and new A47. We feel this is a missed opportunity to provide another WCH overbridge (especially a green bridge). This is further segregation of communities than currently and will also remove from Hockering residents the current option of a quickly accessible

countryside walk using the PRoW network to the south. The provision of WCH facilities along existing and proposed roads and bridges, does to some extent provide this link, but the significant additional distance, makes this a WCH travel (or long-distance recreation) choice and not a short distance recreation choice and so is excluding a significant area of WCH provision.

Another area of concern is the proposed WCH provision in the vicinity of the proposed Norwich Western Link. (see also [Section 3.12-3.19](#)). In addition to east-west provision, the diversion and alignment of sections of Honingham Restricted Byway 1 (RB1) appear to be dependent on the alignment and WCH provision of the proposed Norwich Western Link (NWL). The county council would want to continue its dialogue with Highways England on such matters to ensure that delivery of measures associated with the A47 scheme are coordinated with the delivery of the NWL and that any continuation of routes for WCH must be considered. The county council would also want to ensure that it will not be burdened with unusable additional PRoW or other WCH provision on completion of the schemes.

There are other matters of concern with the diversion of RB1. It appears that the section of it not being diverted does not link at its northern end with the new WCH provision. This needs to be addressed to provide continuity and accessibility even though there is additional WCH in the vicinity. Where the diverted RB is to cross a highway or be concurrent with the new private means of access, it is imperative that the public access rights on this type of PRoW (ie horse and carriage) are fully understood so that suitable crossing facilities, segregation methods, surfaces and most importantly widths of route, are installed.

4.17 **Road Drainage and the Water Environment**

The Environmental Statement Non-Technical Summary identified the key surface water receptors to be the River Tud, ordinary water courses and ponds local to the Proposed Scheme, with the River Wensum identified as a potential receptor as it is located immediately downstream of the River Tud.

Potential impacts to the surface water environment include:

- Flooding of nearby downstream receptors
- Increased pollutants in routine runoff and from accidental spillage
- Loss or degradation of natural channels
- Change in surface water quality and aquatic environment due to construction
- Loss of seven ponds.

Key groundwater receptors include Secondary superficial aquifers and the Chalk principal aquifer. Potential impacts to the groundwater environment include:

- Subsurface structures acting as a barrier to groundwater flow
- Temporary groundwater control within the saturated aquifers, impacting on indirect receptors

- Water quality impacts.

The non-technical summary states that the new carriageway will discharge primarily to the River Tud and its tributaries. Drainage has been designed to attenuate to runoff rates of a 1 in 100-year storm event (plus a 20% climate change allowance). The Proposed Scheme design incorporates the treatment of road drainage prior to discharging.

Mitigation measures required include habitat restoration and the replacement of ponds one for one.

No significant adverse residual effects are expected as a result of the Proposed Scheme during construction or operational phases with the adoption of specified mitigation measures.

4.17.1 **Comments**

We confirm that consultation has been on-going in August, September and November 2020 and January and February 2021. We acknowledge there are some remaining comments that require addressing. We acknowledge that some of the on-going activities relate to requests for clarification or further information comments from the Lead Local Flood Authority (LLFA) during 2020 and 2021.

These relate to the comments provided in March 2021 for the Flood Risk Assessment and the request for further clarification regarding several aspects of the design related to Oak Farm and Hockering culverts and the requirement for compensatory flood storage in February 2021. No agreement has yet been made. We have not stated that no flood floodplain compensation storage is acceptable. We acknowledge that, in principle, flood compensatory storage at Oak Farm and Hockering might not be possible due to the local topography and land availability. However, further evidence previously requested must be provided to determine the extent of the off-site impacts before NCC can come to an agreement. The current Environmental Statement chapter has overstated the position of the LLFA, while the Flood Risk Assessment presents a fairer summary of the current position.

The Environmental Statement indicates further information about the flood storage compensation will be provided during detailed design stage. However, the LLFA seeks assurances that this work will be undertaken to determine the impacts of the current proposed design in its ability to manage the potential future flood risk that could be derived from this scheme.

We are aware that the temporary drainage design during construction is yet to be confirmed. At present, the high-level summary of the temporary drainage approach requires some clarifications. For example, are the proposed settlement ponds mentioned in section 13.5.6 of the Environmental Statement (ES) temporary ponds or are they the proposed permanent ponds? The LLFA seeks assurances that further

information and work will be undertaken in the future in the interests of managing potential future flood risk that could be derived from this scheme. In relation to the drainage strategy, no information regarding the proposed drainage approach is provided for the construction stage. Therefore, the information presented in the ES chapter 13 is not substantiated by the current evidence base. The LLFA seeks assurances that further information will be provided regarding the construction drainage strategy to ensure there is no increase in flood risk during the construction phase, prior to the permanent surface water drainage system becoming operational.

In section 13.9.22 of the Environmental Statement, it is indicated that of the 12 outfalls, nine will be new outfalls. The new outfalls will discharge to surface water via filter drains and vegetated detention basins or wetlands to provide water quality or quantity improvements. While it is appreciated that the existing outfalls and drainage system are currently being surveyed, it is not clear what water quality processes will be applied to the existing outfalls in the current ES.

We note that the drainage strategy report does not refer to the LLFA's Developer Guidance.

Further Information We would like to make you aware that the Greater Norwich Level 2 Strategic Flood Risk Assessment was published in February 2021 and can be found at <https://www.gnlp.org.uk/regulation-19-publication/evidence-base> in its own section. We suggest appropriate consideration is given to relevant aspects of this recently published study.

In addition, please note that any works on ordinary watercourses and flow paths would normally require an ordinary watercourse consent prior to construction. The LLFA in Norfolk seeks assurances that this proposed scheme will be undertaken in accordance with the principles and regulations associated with ordinary watercourse consents and that applications will be made within an adequate timescale. This is to ensure the management of potential future and residual flood risk that could be derived from this scheme.

4.17.2

The LLFA considers there to be an issue regarding the requirements section for surface and foul water drainage. The LLFA would like the draft DCO to be updated to recognise the right organisations by naming them rather than the planning authority (which does not normally have involvement in these aspects).

Please see the proposed wording below.

Requirements

Surface and foul water drainage

8.—(1) No part of the authorised development is to commence until for that part written details of the surface water drainage system, reflecting the drainage strategy and the mitigation measures set out in the REAC including means of pollution control, have been submitted to and approved in writing by the Secretary of State following consultation by the undertaker with Norfolk County Council as Lead Local Flood Authority on matters related to its function as statutory consultee.

(2) No part of the authorised development is to commence until for that part written details of the foul drainage system, reflecting the drainage strategy and the mitigation measures set out in the REAC including means of pollution control, have been submitted to and approved in writing by the Secretary of State following consultation by the undertaker with Anglian Water on matters related to its function.

(3) The surface water drainage system must be constructed in accordance with the approved details, unless otherwise agreed in writing by the Secretary of State following consultation by the undertaker with the Norfolk County Council as Lead Local Flood Authority on matters related to its function as statutory consultee, provided that the Secretary of State is satisfied that any amendments to the approved details would not give rise to any materially new or materially different environmental effects in comparison with those reported in the environmental statement.

(4) The foul water drainage system must be constructed in accordance with the approved details, unless otherwise agreed in writing by the Secretary of State following consultation by the undertaker with Anglian Water on matters related to its function, provided that the Secretary of State is satisfied that any amendments to the approved details would not give rise to any materially new or materially different environmental effects in comparison with those reported in the environmental statement.

4.17.3 It is noted that there is no mention of the ordinary watercourse consenting process. Therefore, the LLFA would like to include the proposed wording below into the DCO:

Works in a watercourse(s)

x.—(1) No stage of the works involving the crossing, diversion, alteration, replacement and installation of new structures of any designated main river or ordinary watercourse may commence until a scheme and programme for any such permanent or temporary crossing, diversion, alteration, replacement and installation of new structure in that stage has been submitted to and, approved by the Secretary of State in consultation with Norfolk County Council, the Environment Agency, relevant drainage authorities and Natural England.

(2) The designated main river or ordinary watercourse must be crossed, diverted, alteration, replacement and installation of new permanent or temporary structures in accordance with the approved scheme and programme.

(3) Unless otherwise permitted under paragraph (x.1), throughout the period of construction of the works, all ditches, watercourses, field drainage systems and culverts must be maintained such that the flow of water is not impaired or the drainage onto and from adjoining land rendered less effective.

4.17.4 Furthermore, we note that there is no mention of the need to involve the LLFA in relation to the review of the temporary surface water drainage plan as part of the EMP. This needs to be addressed. We request that this be added as a requirement, maybe as a part 3 to 8 for the temporary works.

4.18 **Climate**

The construction, operation and use of the Proposed Scheme is predicted to increase carbon emissions. The Environmental Statement Non-Technical Summary states that guidance on gauging the significance of carbon emissions in EIA is evolving, but that a definitive assessment of materiality is not possible.

Additional measures have been adopted as part of the design of the Proposed Scheme to reduce carbon emissions. This is on top of the recent UK government announcement on ending the sales of new petrol and diesel vehicles by 2030 which will further reduce the Proposed Scheme's end user carbon emissions.

The non-technical summary also sets out that the vulnerability of the proposal to projected changes in climate during operation has been assessed, and it has been deemed resilient. Therefore, no significant effects as a result of climate change are anticipated. This will be reviewed when updated climate projections become available.

4.18.1 **Comments**

Norfolk County Council adopted its Environmental Policy at the end of 2019. This included a commitment to move towards carbon neutrality across all sectors by 2030. Emissions from the trunk road network would be included within this. In order to help meet the commitment in its environmental policies the council would want Highways England to commit to undertaking work across the trunk road network to understand in more detail the carbon emissions arising from use of this network and how these might be mitigated.

Norfolk County Council supports Highways England's efforts to reduce the footprint of the construction process.

The county council would want to work closely with Highways England to identify measures to reduce carbon emissions on the trunk road network, eg by installation of Electric Vehicle charging points to encourage electric vehicles, and understand how these will be brought forward, their impact on emissions reduction and how they dovetail with measures that local partners are taking on the local transport network and across other sectors.

5.

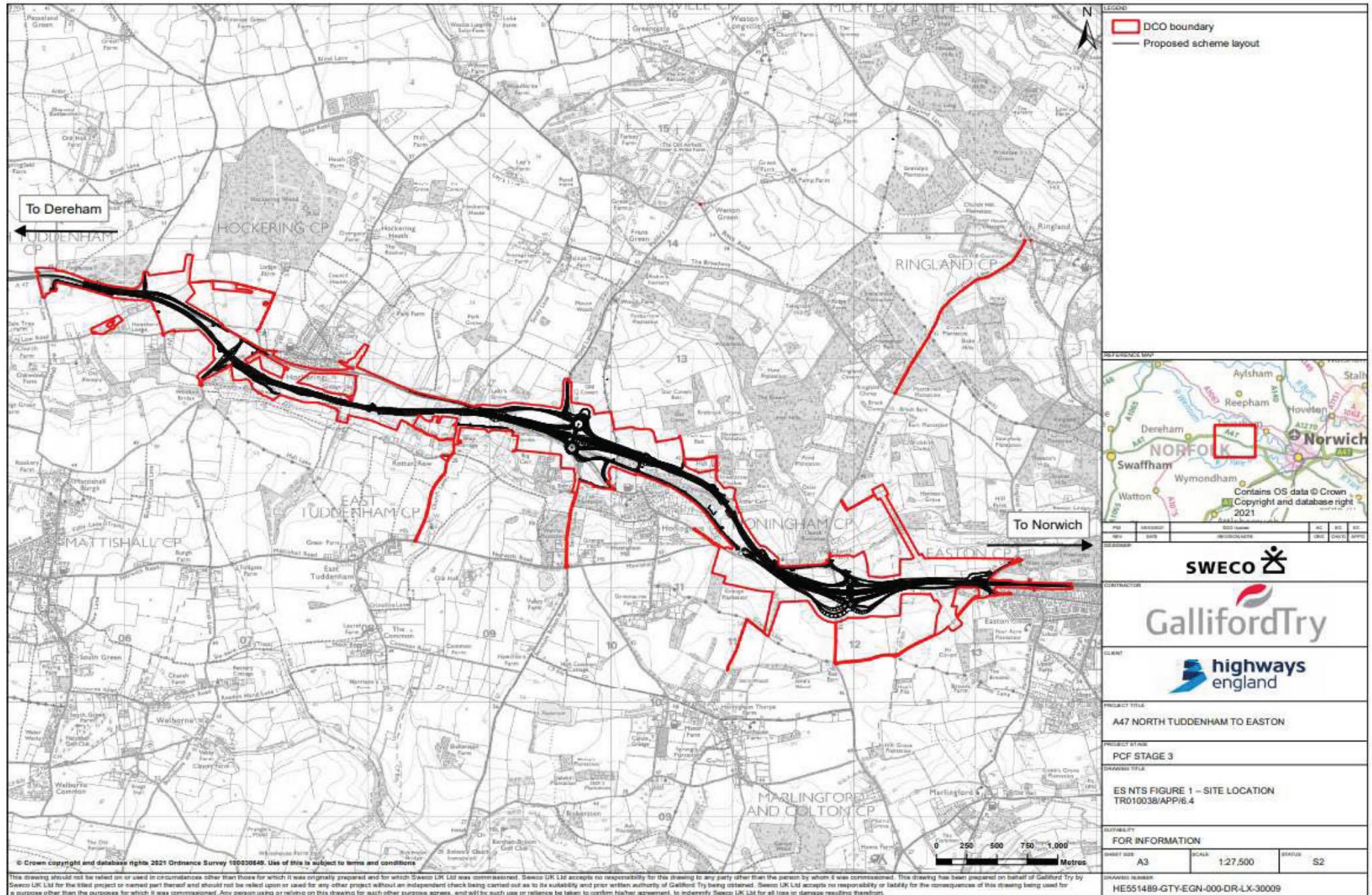
Conclusion

Norfolk County Council supports the principle of dualling the A47 between North Tuddenham to Easton subject to:

- (a) The implementation of appropriate highway, historic environment, and surface water conditions / requirements being resolved through the DCO process
- (b) The detailed comments set out in this report being addressed through the DCO process.

The County Council continues to work with Highways England, as evidenced in our Statement of Common Ground, in order to resolve the above issues.

Appendix A: Proposed Scheme Plan



LEGEND

- DCO boundary
- Proposed scheme layout

CONTRACTOR

CLIENT

PROJECT TITLE

PROJECT STAGE

DRAWING TITLE

SUITABILITY

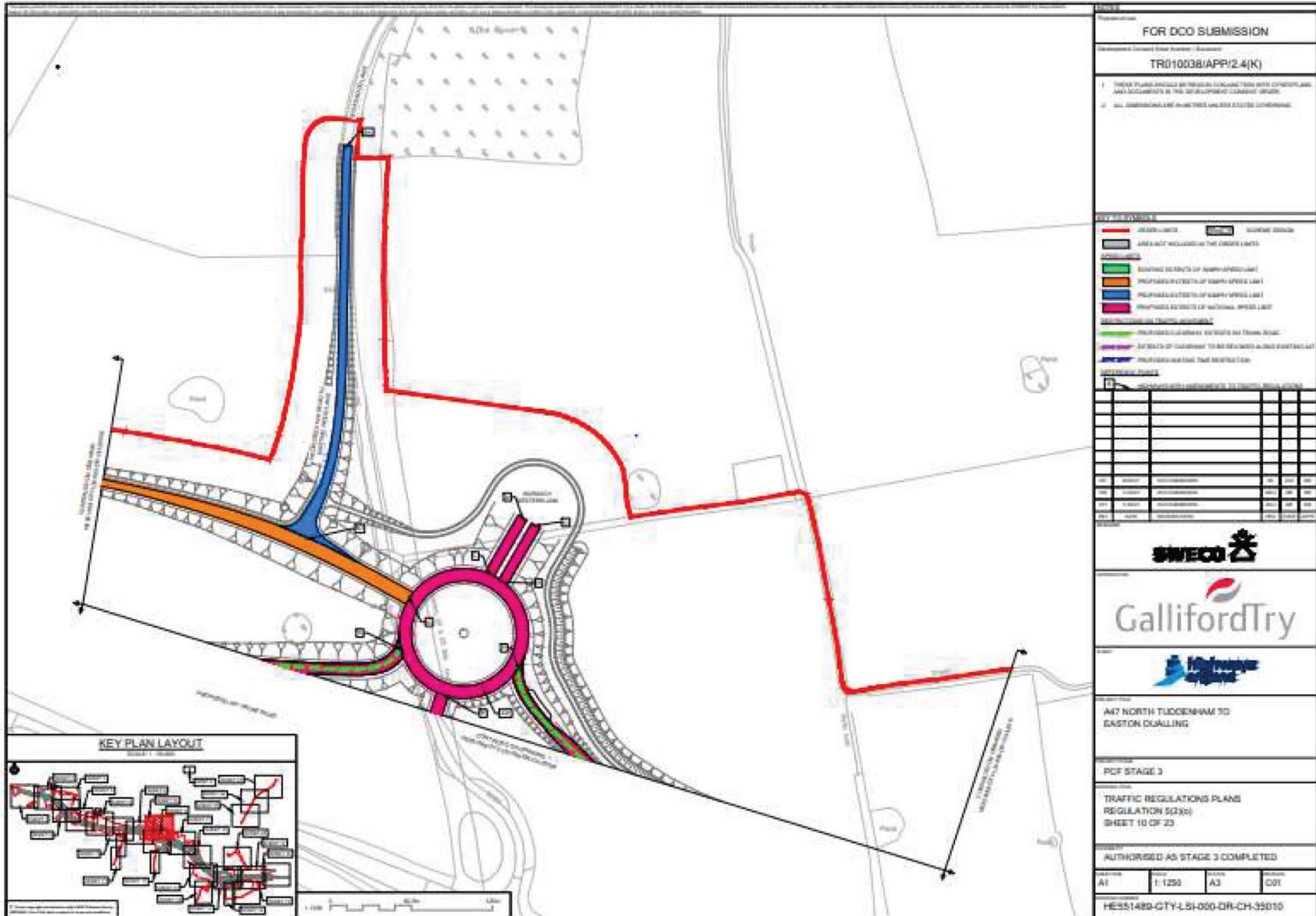
PROJECT SIZE	SCALE	STATUS
A3	1:27,500	S2

DRAWING NUMBER

HE551489-GTY-EGN-000-DR-LX-30009

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Appendix B: Wood Lane Junction showing connection to Norwich Western Link (in pink)





Norfolk County Council

Norfolk County Council

Written Representation

A47 / A11 Thickthorn Junction – submitted Development
Consent Order Application

Identification No. TR010037

Evidence by David Cumming
Strategic Transport Team Manager

August 2021

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Appendix A – Location Map showing the proposed scheme plan

DRAFT

Norfolk County Council – Written Representations

A47 / A11 Thickthorn Junction – submitted application

August 2021

1. Introduction

- 1.1. This report sets out Norfolk County Council's position with regard to the submitted Development Consent Order (DCO) application made under section 56 of the Planning Act (2008).
- 1.2. The County Council is a statutory consultee given that the proposed development is a Nationally Significant Infrastructure Project (NSIP) under the above Act and is located:
At Thickthorn Junction, comprising a new free-flowing connector road between the A11 northbound and the A47 eastbound (ie to connect the two trunk roads directly for traffic travelling from the London to Gt Yarmouth directions). (See Appendix 1, location plan)
- 1.3. The principal role of the County Council in responding to the above proposed dualling application, is in respect of the Authority's statutory role as:
 - Highways Authority;
 - Minerals and Waste Planning Authority;
 - Lead Local Flood Authority; and
 - Public Health responsibilities.
- 1.4. In addition, the County Council have an advisory environmental role and economic development function, which has also fed into the response to the DCO application.
- 1.5. The issues raised below simply relate the County Council's statutory and advisory functions.

2. Background

- 2.1. This is a Development Consent Order (DCO) application for upgrading the existing A47 / A11 Thickthorn Junction, which will be determined by the Secretary of State. The application is defined as a Nationally Significant Infrastructure Project (NSIP) under the Planning Act 2008.

- 2.2. The pre-application version of this proposal was signed off by the Cabinet Member in July 2019. Members supported the principle of the proposed junction improvements subject to a number of detailed issues and comments being resolved with Highways England.

3. The Proposal – Development Consent Order Application

- 3.1. The County Council has assessed the proposal on the following basis:
- 3.2. The proposal comprises a new free-flowing connector road between the A11 northbound and the A47 eastbound (ie to connect the two trunk roads directly for traffic travelling from the London to Gt Yarmouth directions). This is one of the main movements through the junction and will therefore remove a considerable amount of traffic. The new connector road will re-route traffic away from the junction via a new underpass. The existing footbridge over the A47, east of the existing junction, will be removed and a new footbridge for walkers, cyclists and horse riders will be provided.
- 3.3. **New / amended junctions comprise:**
- A single-lane free-flowing road connecting the A11 northbound to A47 eastbound via two underpasses
 - Widening the southern section of the Thickthorn roundabout from three lanes to four
 - A new, segregated slip road for traffic travelling on the A47 from the Gt Yarmouth direction to the A11 London-bound
 - Removal of the Cantley Lane South direct connections between the A11 and A47 exit slip roads
 - A new link road connecting Cantley Lane South with the B1172 Norwich Road to the north and construction of two new bridges. The new link road will have a 40mph speed limit
 - From the Thickthorn junction to Hethersett, a 40mph speed limit will be implemented on the B1172 Norwich Road and a new junction connecting to Cantley Lane Link road
 - Improvements will be provided to the junction of Station Lane (north of the A11) and the A11 northbound
 - A new junction will be provided connecting Cantley Lane South to Cantley Lane link road

New walking, cycling and horse-riding amenity:

- A new bridge over the A47 for walkers, cyclists and horse riders approximately 45m east of the existing footbridge (which will be demolished). The bridge will have higher railings to help improve safety for horse riders
- Paths for walking and cycling proposed along the new Cantley Lane link road providing access to local amenities and links to other recreational routes
- Access to the Park and Ride from the Cantley Lane link road for walkers and cyclist

Other details include:

- New traffic lights on the approach to and from the junction with the B1172 Norwich Road (ie this leg of the junction will be brought under signal control as per all of the other legs currently)
- New road signs and road markings throughout the junction
- a 30mph speed limit will be implemented on Cantley Lane South
The existing Cantley Stream and access track will be realigned, and one new stream culvert constructed.

4. Local Impacts

4.1. This section of the report assesses the Environmental Statement (ES) and other supporting documentation in respect of the County Council's key functions and sets out the Authority's proposed response / comments.

4.2. Overview

In summary, the proposal is to upgrade the existing Thickthorn Junction by providing a new free-flowing connector road between the A11 northbound and the A47 eastbound. The new connector road will re-route traffic away from the junction and flow it under via a new underpass.

Highways England is bringing forward major road improvements in addition to Thickthorn Junction, including proposals to dual Blofield to North Burlingham, Easton to North Tuddenham, and improvements – yet to be devised – at Vauxhall and Harfreys junctions in Great Yarmouth.

4.2.1. Comments

The principle of upgrading the Thickthorn Junction is fully supported. The junction is a well-known congestion area and improving traffic flow will reduce journey times and increase safety and resilience. The need to upgrade the junction was established in the Greater Norwich City Deal that identified a programme of infrastructure required to support the growth plans of the area. The delivery of the Thickthorn improvement is a significant investment in our infrastructure programme and is a major element of infrastructure required to enable planned growth.

4.3. Highways Impacts

4.3.1. The highway impacts of the A47/A11 Thickthorn Junction scheme are set out in Development Consent Order (DCO) document 7.1 Case for the Scheme.

4.3.2. With regard for the need for the scheme this document notes that "The feasibility study identified the A47/A11 Thickthorn Junction as operating over capacity on a number of approaches and that the situation will get worse with traffic growth." The DCO report sets out the traffic impact of the improvement scheme on the

existing junction and the predicted traffic flows on new road links that the scheme provides.

- 4.3.3 From the report it is clear that the scheme provides relief to the existing at grade signalised roundabout by removing the dominant movement from the A11 in the south to the A47 in the east and vice versa. These movements are diverted onto two new one-way road links, each of which is predicted to carry about 10,000 vehicles a day when the scheme opens rising to over 12,000 a day in 2040.
- 4.3.4. The rather compromised existing access arrangement to Cantley Lane South, which is from a tight slip road off the existing Thickthorn roundabout, and egress onto an existing off slip road is removed by the scheme. In order to access Cantley Lane South with the new arrangement, a new link from Hethersett Lane (B1172) is provided which incorporates a road bridge over the A11. This new road link is predicted to carry some 900 vehicles a day when the improvement scheme is opened.
- 4.3.5. The NATS Saturn Model was used as well as a microsimulation model. Base surveys were undertaken in 2015, 2016 (for the Saturn Model) and 2019 for the microsimulation. The county council is unsure if any growth factors were applied to Background traffic as this is not mentioned and there is an assumption that growth was incorporated into the NATS model.

The NATS model forecasts that in 2025 there will be an approx. increase in peak hour traffic of 14% and that increases to 25% in 2040. This is a substantial increase which is primarily attributable to growth in the NATS policy area and specifically around Wymondham, Hethersett and Cringleford. Without the proposed scheme the existing capacity issues will be significantly exacerbated.

The Transport Case mentions removing the bus lane on the B1172 approach to the roundabout. However, it is concluded that removing the bus lane will have very limited benefit in 2025 so it is proposed to revisit this once the scheme is opened.

Modelling of the B1172/MacDonald's roundabout (including the P&R extension) shows that in 2040 with the scheme open, the roundabout operates below capacity.

Whilst some walking links are removed, others are enhanced, and a new overbridge is provided to connect Cantley Lane and Cantley Lane South. This will also be a bridleway which will lead to the removal of the Pegasus facilities that currently exist (crossing the slip roads on the A47 on the eastbound approach to the junction).

The Transport Case summarises that in terms of journey time reliability, benefits will be introduced as capacity is increased, delays are shortened, and accidents are reduced. The scheme will provide additional capacity which will improve travel times, support housing and economic growth and provide additional

capacity to support strategic growth linking Norwich to Peterborough and Cambridge.

4.3.6. The only approach which doesn't benefit from the A47/A11 Thickthorn Junction scheme is the A11 approach from Norwich.

4.3.7. **Comments**

The Development Consent Order (DCO) document 7.1 Case for the Scheme, sets out projected changes to traffic patterns of the A47/A11 Thickthorn Junction scheme. There does not appear to be anything within the case that would lead to the local highway authority having any concerns over the proposed scheme. Therefore, the county council is recommending no objection.

Based on the assessment, it appears that the predicted traffic growth will make the A11 approach from Norwich the worst performing arm in the future in terms of capacity and delay. This appears to be exacerbated by the enhanced throughput of the junction which gives rise to additional traffic on this approach. The county council would want to discuss this issue in more detail with Highways England to see if anything could be done at this location as part of the scheme to minimise this effect.

4.4. **Detrunking**

The scheme includes proposals that, on completion of the scheme, would not form part of the trunk road network, but would become the responsibility of the county council. Chief amongst these is the proposed new link from Cantley Lane South to the B1172, comprising a major structure over the A11 as well as a stretch of new road. This is proposed as a B class road. This is not considered appropriate. We have previously voiced concerns to Highways England about this link road encouraging more west-to-east movements between Hethersett and Mulbarton, as have local parish councils. Cantley Lane South is currently effectively a single lane track with passing bays along it, predominantly used by northbound traffic. Highways England's modelling shows only minimal increase in traffic on Cantley Lane South. However, classifying the road as a B road is likely to indicate to traffic that that this is a through route and encourage further traffic, which would not be appropriate.

Whilst the county council would receive additional maintenance funding through the national grant agreement formula (due to the additional road length being maintained) this is not likely to be of any significance. It would not be sufficient to bring roads or structures up to standard (if they require this). To date we have not been provided with data indicating what assets might require attention in the short to medium term.

(The new underpasses connecting the A11 to the A47 would form part of the trunk road network.)

4.4.1. **Comments**

No agreement has been made to accept any current Highways England assets and we will not do so until an agreement process including exchange of data and provision of funding regarding assets which may require attention in the short to medium term has been completed.

The agreement should be based on the condition and number of the assets to generate either a sum of funding to be transferred to Norfolk County Council, or the asset brought up to an as new or good condition. The county council would expect to receive a commuted sum, agreed with Highways England, for future maintenance of transferred assets.

- 4.4.2. The county council does not support classification of the new link from Cantley Lane South to the B1172 as a B class road. Cantley Lane South is currently effectively a single lane track with passing bays along it, predominantly used by northbound traffic. Classifying the road as a B road is likely to indicate to traffic that that this is a through route and encourage further traffic, which would not be appropriate.

We would want to have further discussions with Highways England on the classification of this link and on the detail of the destinations signed along it from the B1172 Hethersett Road.

4.5. **Socio-Economic Issues**

There are potentially significant economic benefits arising from the dualling proposal in terms of:

- Local employment creation
- Business sectors affected by construction
- Productivity benefits to businesses, and other wider economic benefits, arising from upgrading the junction
- Making journeys safer and more reliable

4.5.1. **Comments**

The county council would certainly want to see opportunities for inclusive growth and social mobility included in the socio-economic opportunities for Norfolk. We would be willing to work with Highways England or the appropriate agency to support this.

The county council will continue to work proactively with Highways England to encourage apprenticeships, work experience and internships being included at an appropriate stage in the project.

- 4.5.2. Productivity and other wider economic benefits will arise from the completed schemes. These include journey time savings and reliability improvements, benefitting businesses. These are to be welcomed.

4.6. **Environmental Issues**

An Environmental Statement (ES) has been prepared to accompany the DCO Application. This sets out a description of the proposed scheme and the reasonable alternatives considered in the development of the design, the environmental setting, potential impacts and the likely significant effects of the Proposed Scheme on local communities and the environment, and the measures proposed to mitigate these effects.

The Environmental Statement: Non-Technical Summary provides a summary of the ES in non-technical language. This section considers each of the issues in the non-technical summary in turn.

4.7. **Air quality**

The assessment concluded that effects will not be significant and that in its operation the scheme is not predicted to affect the UK's ability to comply with the Air Quality directive, which sets exceedance limits for pollutants.

With no significant effects predicted, no mitigation is proposed.

4.7.1. **Comments**

The county council supports improvements to air quality and would want to see continued monitoring including in operation of the scheme following construction.

4.8. **Cultural Heritage**

Cultural heritage includes archaeology, historic buildings / structures and historic landscapes including parks and gardens.

The Environmental Statement: Non-Technical Summary sets out there is the potential for both beneficial and adverse impacts, but that potential adverse impacts have been reduced or eliminated through the design and mitigation.

A designated heritage asset, No.4 grade II listed structure, is located inside the site boundary. Highways England have proposed protection with fencing throughout construction and therefore no impact is predicted.

A scheduled monument is located outside the site boundary 'Two Tumuli in Big Wood'. This site will have significant residual adverse effect as a result of operations from the proposed scheme. The proposal is to remove the last remaining preserved part permanently from the western barrow – the effects will be reduced for the eastern barrow due to thicker vegetation in the area.

It notes positive impacts as being a new viewpoint and information board, to enhance appreciation of cultural heritage.

4.8.1. **Comments**

Arboriculture

The Arboricultural Impact Assessment (AIA), in accordance with BS5837:2012 'Trees in relation to design, demolition and construction, recommendations' submitted by RSK ADAS Ltd, dated February 2021 is fit for purpose (based on the information provided at the time of survey) with regards to assessing existing tree quality and calculating impacts.

The report also gives clear advice with regards to relevant legislation, construction techniques, utility installation and other on-site methodology to mitigate impacts to trees.

However, there are x 5 category A, x 7 category B trees and x 1 category B tree group designated for removal that should be retained should any design changes allow. In addition, 27 tree groups and two woodlands will require partial removal. These include B grade tree groups G9, G10, G11, G13, G14, G21, G22, G23, G27, G38, G88, G89 and B grade woodland W2.

It should be noted that B category trees might only have been downgraded from category A due to an observed impaired condition. They are still of significance and should be retained where possible or compensated adequately for if removal is unavoidable (as recommended in BS5837:2012).

W2 has been described within 6.3 Environmental Statement - Appendix 8.1 Botanical Survey Report as 'a priority habitat and potentially ancient woodland (present since at least 1840).' However, this was not observed within the AIA (potentially because the Ancient Woodland Inventory only records ancient woodlands of over two hectares in size). This needs clarification as it could affect the scheme's design, mitigation and/or compensation due to the national significance of such habitats; explained in further detail below.

With regards to the x 5 category A trees with veteran and/or over-mature/ancient characteristics to be removed (situated within the new Cantley Lane Link Road section of the development), T14 has a stem diameter at breast height of over two metres which is quite exceptional. These trees are open-grown individuals, likely remnants of historic parkland or wood pasture. They have high arboricultural, landscape, conservation and cultural values.

These are irreplaceable habitats with some or all of the following characteristics (as stated in the government guidance note: www.gov.uk/guidance/ancient-woodland-and-veteran-trees-protection-surveys-licences#ancient-and-veteran-trees):

Ancient woodland

Ancient woodland takes hundreds of years to establish and is defined as an irreplaceable habitat. It's important for its:

- Wildlife (which include rare and threatened species)
- Soils
- Recreational value

- Cultural, historical and landscape value.

It's any area that's been wooded continuously since at least 1600 AD. It includes:

- Ancient semi-natural woodland mainly made up of trees and shrubs native to the site, usually arising from natural regeneration
- Plantations on ancient woodland sites - replanted with conifer or broadleaved trees that retain ancient woodland features, such as undisturbed soil, ground flora and fungi.

They have equal protection in the National Planning Policy Framework (NPPF).

Other distinct forms of ancient woodland are:

- Wood pastures identified as ancient
- Historic parkland, which is protected as a heritage asset in the NPPF.

Many of these do not appear on the Ancient Woodland Inventory because their low tree density did not register as woodland on historic maps.

Highways England should give consideration to wood pasture identified as ancient in planning decisions in the same way as other ancient woodland.

'Wooded continuously' does not mean there's been a continuous tree cover across the whole site. Not all trees in the woodland have to be old. Open space, both temporary and permanent, is an important component of ancient woodlands.

Ancient and veteran trees

An ancient tree is exceptionally valuable. Attributes can include its:

- Great age
- Size
- Condition
- Biodiversity value as a result of significant wood decay and the habitat created from the ageing process
- Cultural and heritage value.

Very few trees of any species become ancient.

All ancient trees are veteran trees, but not all veteran trees are ancient. A veteran tree might not be very old, but it has decay features, such as branch death and hollowing. These features contribute to its biodiversity, cultural and heritage value.

The National Planning Policy Framework (NPPF), updated in 2018, includes a provision that "development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons" (paragraph 175c).

It is understood that this development is seeking a Development Consent Order to prove its 'wholly exceptional' status, but it must:

1. Avoid impacts

2. Reduce (mitigate) impacts
3. Compensate as a last resort.

In response to an earlier consultation (noted in document 5.2 Consultation Report Annex M: Table Evidencing Regard had to Statutory Consultation Responses), the Forestry Commission noted the loss of the veteran trees and suggested the felled timber should be moved to adjacent shared green space where 'the material can decay by natural processes and continue to provide natural deadwood habitat'. This prescription provides a degree of mitigation to the overall impact and is supported.

Threats to remaining trees

The AIA has identified that a site compound is shown within the RPA of A grade trees T16, T18, T19, T20, G20, T21, T23, T25; and B grade trees T17, T24 and G26. Should this location not be subject to change, these trees will be under threat from damage such as compaction and pollution. The AIA gives guidance and methodology to avoid and reduce these impacts.

Threats to the health of remaining trees have also been identified with regards to construction of fence lines, change of soil levels, installing utilities and close proximity working.

AIA update

Should the proposals be approved, it should be conditioned (and submitted for approval prior to works commencing) that the AIA will be updated to include:

- Tree Constraints Plan
- Tree Protection Plan
- Arboricultural Method Statement
- Timetable for Implementation of Tree Protection Works.

4.8.2. Environmental Masterplan

The Environmental Masterplan details replanting proposals in a clear visual format but without species detail or quantification. It is not clear at this stage, how planting design has been calculated to ensure adequate replacements for losses incurred will be achieved. This requires clarification.

Trees and woodlands are part of the wider landscape mitigation that will be required and it should be the quality and resilience of the resulting landscape, taking all habitats into account, rather than the number of replacement trees that will dictate whether the mitigation is acceptable. We would expect a minimum 30-year compensation strategy to be submitted, based on a calculation of habitat loss and demonstrating net gain. This strategy would usually include the area surrounding the application boundaries and should consider the following examples:

- Planting of new woodlands, hedgerows with trees, individual and tree groups
- Management plans and schedules to maintain newly planted trees and woodlands

- Connecting woodland and ancient and veteran trees separated by development with green bridges
- Planting individual trees that could become veteran and ancient trees in future
- Management agreements with adjacent landowners to provide or assist with woodland management to improve tree resilience and biodiversity
- Providing management schedules for existing veteran and ancient trees / woodlands nearby
- Extending existing woodland and ancient woodland through natural regeneration / rewilding
- Selective veteranisation of specific trees

4.9. **Landscape**

The Environmental Statement: Non-Technical Summary sets out that during construction, there would be a loss of existing trees and areas of woodland and a change to the existing agricultural land use due to:

- The new slip road between the A11 and A47
- The new Cantley Lane Link road
- Temporary construction compounds and materials storage areas.

During the initial stages of operation, the proposed scheme carriageway, overbridge structures, junction lighting, signage and movement of vehicles along the highway would be visible. The scheme proposes tree planting, retaining / replacing / reinforcing existing vegetation, sourcing plant and grass species specific to the local area and creating a reptile habitat around the Cantley Stream. The tree planting would revert the visibility of the main trunk road proposed to a state comparable to the existing situation. Localised significant visual effects would persist at the residential properties in Cantley Lane South and a slight adverse effect to the landscapes character would persist away from the trunk road elements.

The assessment concludes that the proposed scheme would not result in significant long-term residual effect on visual amenity and landscape as a whole.

4.9.1. **Comments**

The following comments are made from a Landscape perspective and are based on the review of the following documents:

Volume 6 6.1 Environmental Statement:

- Chapter 7 – Landscape and Visual Effects
 - (Please note Chapter 6 Cultural Heritage assessed the effect of the scheme on Thickthorn Hall as a County designated Historic Park and Garden, this has however not been reviewed as part of the Landscape comments, and views should be sought from the Norfolk County Council Historic Environment Team.)
- Chapter 15 – Cumulative Effects Assessment (Please note only elements relevant to Landscape and visual effects have been reviewed)

- Appendix 7.1 – Planning Policy Context
- Appendix 7.2 – ZTV and Verified Photomontage Methodology
- Appendix 7.3 – Landscape Character Areas
- Appendix 7.4 – Visual Receptors
- Appendix 7.5 – Representative Viewpoints
- Appendix 7.6 – Arboriculture Impact Assessment (Please note this has only been reviewed from a Landscape perspective and not in relation to Arboricultural expertise)
- Appendix 7.7 – Lighting Assessment (Please note this has only been reviewed from a Landscape perspective and not in relation to any other expertise)

6.8 Environmental Masterplan:

- TR010037/APP/6.8 (Please note this has been viewed at a strategic level)

Volume 7 7.4 Environmental Management Plan:

- Record of environmental actions and commitments

Documents have been reviewed with their associated figures where possible. Where documents have not been fully reviewed this has been noted, or where documents have not been located or unavailable this has also been noted. No documents outside of those mentioned have been reviewed or considered as part of this response. Please note Chapter 6 Cultural Heritage assessed the effect of the scheme on Thickthorn Hall as a County designated Historic Park and Garden, this has however not been reviewed as part of the Landscape comments, and views should be sought from the Norfolk County Council Historic Environment Team.

The paragraph numbers below refer to Chapter 7 – Landscape and Visual Effects – of the Environmental Assessment.

7.2 Suitable expertise is provided for such an assessment

7.3.2 States that “Retention of veteran, mature or otherwise significant trees, groups of trees or woodland (and where removal is proposed, replacement with those of similar amenity value) (Policy DM 4.8 of the DMPD)”

4.9.2.

Veteran Trees are irreplaceable habitats and form an important part of the cultural and historical landscape, the loss of these trees in the landscape cannot easily be replaced with trees of similar amenity value, by nature of their scale and size, it would take a considerable length of time to achieve anywhere near the same amenity value. (www.gov.uk/guidance/ancient-woodland-and-veteran-trees-protection-surveys-licences#ancient-and-veteran-trees)

The National Planning Policy Framework (NPPF), updated in 2018, includes a provision that “development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons” (paragraph 175c).

It is understood that this development is seeking a Development Consent Order to prove its ‘wholly exceptional’ status, but it must:

1. Avoid impacts
2. Reduce (mitigate) impacts
3. Compensate as a last resort.

7.4.1 Suitable guidance is being used and adhered to, and we welcome other relevant references being taken account of.

7.4.11 Comments on Cumulative Effects Assessment are discussed below.

7.4.13 We understand and accept the need to amend the scope of the assessment following a review of changes in DMRB LA 107 Landscape and Visual Effects.

7.4.14 Tables 7-1 and 7-2 lay out the proposed scope in terms of both landscape and visual effects. Norfolk County Council broadly agrees with the elements which have been scoped in and out of the assessment. The table notes that there are no landscape designations. However, to the south east of the existing Thickthorn roundabout, close to where the proposed new slip road joins the A47 is Intwood Hall, a nationally registered grade 2 historic park and garden. This does not appear to be mentioned in this table, not even in a similar fashion to Thickthorn Hall. Justification might be needed to clarify this.

7.4.15 The council also acknowledges the change in guidance on Visual Representation of Development Proposals and is pleased to see that whilst it does not change the approach, that the amended guidance has been considered.

7.4.22 We support and share concerns regarding the key issues raised by consultees previously.

7.4.23 We are satisfied that viewpoints have been reviewed and agreed by South Norfolk District Council as the local planning authority.

7.6.1 We are happy with the 1km from the DCO boundary study area of the Landscape and Visual Impact Assessment (LVIA), considering the relatively low lying elements of the scheme, and the coincidence of the more visually obtrusive elements with the existing structures of the A47 and A11.

7.6.2 A reasoned argument is made for the exclusion of visual receptors to the west of Station Road and parts of Hethersett and Ketteringham. We understand this decision at this stage and appreciate that there are unlikely to be any significant visual effects caused by the proposed scheme in these locations.

7.7.2 Whilst the works at St Giles Park are expected to be largely complete by 2023, when the proposed scheme is programmed to begin, consideration of potential delays should be giving to the cumulative impacts of both works overlapping and the landscape and visual effects that these two schemes running concurrently may have on the surrounding local area.

7.7.6 This paragraph clearly lays out the importance of woodland and parkland-style trees in the landscape surrounding the scheme. Large losses of this

woodland and individual trees will have a detrimental effect on the area both in landscape and visual terms.

7.7.8 It will be important that, as identified in this statement, the impact of increased infrastructure within an area identified as a strategic gap between Cringleford and Hethersett and identified as a policy area seeking to protect openness and enhance the southern bypass is thoroughly considered. Whilst there area already extensive highways infrastructure in this area, bunding, embankments, linear planting or other road infrastructure has the potential to severely degrade the openness and landscape “gap” that is vital in the landscape here.

7.7.11 The impact on the setting of Thickthorn Hall historic park and garden is concerning, especially the loss of trees including two veterans. Where possible the loss of veteran trees should be avoided, and the scheme designed to allow these important trees to remain in the landscape.

7.7.13 We note that a majority of the individual trees identified in the AIA are A grade, and some of those are additionally noted as veteran species. These trees, both A grade and below, form an important part of the wider landscape.

7.7.20 Whilst minor, Cantley Stream is an important feature within the landscape and should be unaffected where possible by any proposals.

7.7.21 Details the current road network and the rural character of these roads, particularly noting Cantley Lane South. This raises concerns regarding the link road proposed from B1172 Norwich Road, down to Cantley Lane South, which would have a detrimental impact on the rural nature of this road, both in terms of the introduction of a new junction, but also an increase in traffic. The council has had discussions with Highways England in respect of the justification for this road, which not only raises concerns regarding Cantley Lane South, but also involves the removal of some notable large and veteran trees.

7.7.38 We agree with the conclusions drawn that existing proposals might begin to introduce additional lighting, and that there will therefore be a need for this scheme to minimise any additional lighting of the area and work to retain that gap between rural and urban areas.

7.7.49 The concurrent construction of St Giles with the Thickthorn Junction proposals should be considered. The extent of this consideration will likely depend on how much work will still be ongoing at St Giles.

7.8.1 Construction compounds should be sited where minimal impacts are likely, for example it would not be appropriate to remove trees to site a compound, which would not need to be removed for the proposed scheme.

7.9.3 There are extensive losses of landscape features and notable tree losses as a result of this scheme. It will be hard to offer replacements at such scale, but mitigation must be well thought out and the locations carefully considered so as

to both minimise the visual impacts of the scheme and minimise the landscape scale impacts on a wider scale.

7.10.3 We agree that the overall removal of existing vegetation including woodland and prominent trees, realignment of Cantley Stream, earthworks and presence of construction plant, materials, machinery, construction compounds and construction lighting will have an adverse and significant impact on the local landscape character during construction and will, however temporary, change the perception of the area from a tranquil rural landscape to one of much more activity, movement and perceived development.

7.10.6 The loss of woodland and large and visually prominent specimens located along Cantley Lane South is of concern, whilst this is noted as an effect during the construction period, this is a long term effect that cannot be easily replaced by the planting of new young trees.

7.10.8 Depending on the progress of St Giles Park, it will be important that the haul road proposed in this area does not require the removal of installed landscape buffer. If this element of St Giles Park has already been completed, it would be inappropriate to remove it.

7.10.10 The level of visual disruption for these receptors (R1, R2, FP2, R5, R6 and FP1) is of concern.

7.10.21 The disruption at Cantley Lane South is of most concern, it appears that there will be considerable disruption here to the views, tranquillity and overall landscape during both construction and operation.

7.10.25 -7.10.26 Similar concerns are raised for the footpaths Hethersett FP6 and Cringleford FP4.

7.10.31 The scale of loss of vegetation in the landscape, particularly when involving mature woodland and trees, and veteran trees is of concern both in a landscape and visual sense. Wherever possible this should be avoided and if opportunities arrive during the finalising of the design to retain any of these important landscape features they should be utilised.

7.10.35 The loss of existing rural character and sense of tranquillity on Cantley Lane South is disappointing, and whilst will be partially restored, this is an irreversible change to the road and the local area. The loss of veteran trees, and mature roadside trees should be avoided where at all possible, where the scheme doesn't allow this and the justification is there, suitable mitigation should be allocated for these losses. Whilst new young trees, cannot go anywhere towards replacing veteran trees, it would be hoped that the scheme can at least plant substantial trees that will in the long-term future offer distinct value to the landscape.

7.10.50 – 7.10.55 Whilst it is appreciated by year 15 the effects have been assessed as neutral or slight adverse, the combination of construction effects, plus 10+ years of operational effects are significant, particularly on residential

receptors. Where a large adverse visual effect is left at year 15 (locations redacted), this is concerning.

7.12.8 We understand the conclusions drawn that the scheme would not result in widespread significant residual visual effects and are limited to a localised impact. Whilst this is detrimental to those living in and using this local area, we understand that under the DMRB LA107 this is considered minor. However, we would consider that the removal of such mature woodland, trees, and veteran trees, the realignment of watercourse and introduction of additional infrastructure into the landscape should be considered with more weight. Particularly where this relates to veteran species which cannot be replaced with mitigation planting.

Chapter 15 – Cumulative Effects Assessment (Please note only elements relevant to Landscape and visual effects have been reviewed)

The document has been reviewed for its inclusion of Landscape and Visual consideration, but comments cannot be made on the suitability of the methodology or the suitable qualifications of those who have undertaken the assessment. Whilst some elements are redacted due to (we believe) addresses, we believe we've been able to establish the locations that the assessment relate to and broadly support the conclusions drawn.

Appendix 7.4 – Visual Receptors: We are happy that the Visual Receptors have been agreed in consultation with the relevant district authorities. We have not undertaken a review of these at this stage.

Appendix 7.5 – Representative Viewpoints: We are happy that the Viewpoints have been agreed in consultation with the relevant district authorities. We have not undertaken a review of the viewpoints at this stage.

Appendix 7.6: Arboriculture Impact Assessment (Please note for these comments, this has only been reviewed from a Landscape perspective and not in relation to Arboricultural expertise – see Norfolk County Council Arboricultural Comments).

- 4.9.3. The AIA appears to conform to industry standards and be fit for purpose. There are a considerable number of large trees proposed for removal including areas of mature woodland, and a number of irreplaceable veteran trees. We would of course, in the first instance prefer to see these trees retained where possible, and amendments made to the scheme to allow the retention of more trees. Trees in such large numbers play an important part in the wider landscape and act as features seen from great distances. Where the retention of trees is not possible, then suitable mitigation in line with Norfolk County Council's tree policy would be our next expectation. Whilst this will not replace the loss of mature and veteran trees, it will form the foundation of the future landscape. The location of such trees, tree belts, hedges and woodland should be carefully chosen to not just screen the development, but also be reflective and respectful of the wider landscape.

Environmental Masterplan TR010037/APP/6.8: The plans provide detailed proposals for the landscaping of the scheme. Further planting specification and planting details will be required, as well as management plans for the establishment and long-term maintenance of the various landscaping, landscape features and landscaped elements. Whilst net gain is not a requirement for DCO applications, a clear understanding of how mitigation planting numbers have been reached, and demonstration that they are calculated to suitably compensate losses needs clarifying. Detailed design might be required for some elements when specifications are confirmed further during the process. We note that a Landscape and Ecology Management Plan will be produced. There are dispensaries with some trees at the end of Cantley Lane south, clarification needed on whether these are to be retained. Mapping of the Meadow Farm county wildlife site across documents should be confirmed as there are some discrepancies.

4.10. **Biodiversity**

The Environmental Statement Non-Technical Summary notes that there are valuable habitats and species of nature conservation importance that could be adversely affected by the proposed scheme and that, although avoidance of impacting trees and hedgerows was a key consideration throughout the design stage, there will be small areas of these habitats that will need to be lost.

The potential unmitigated impacts of the proposed works include the loss of nesting, roosting, resting, commuting and foraging habitat for protected and notable species.

The summary states that mitigation measures have been identified to safeguard the conservation status of wildlife populations through both the construction and operational phases.

The summary states there would be significant effects to deciduous woodland and hedgerows due to the time delay in reaching their former maturity. There would be a significant effect from the loss of two veteran trees as they are irreplaceable.

There will be a net gain of more biodiverse grasslands with the introduction of species-rich and marshy, wet grassland. There will be riparian planting along Cantley Stream which will increase habitat for aquatic invertebrates.

There is a slight impact overall for bats due to the time delay between loss of habitat and the remediated habitats reaching maturity.

All other residual effects after mitigation are not considered significant.

4.10.1. **Comments**

Scheme Design: Has the scheme been reviewed by the Strategic Design Panel?

Environmental Statement - Chapter 8: Biodiversity: There are several inconsistencies in that Chapter 8 does not accurately reflect the conclusions and/or mitigation recommendations made within the ecological reports, and the

mitigation measures proposed are not always specific to the predicated impacts (or proven to be effective). Equally there are also inconsistencies between Chapter 8 and the Record of Environmental Actions and Commitments (REAC). Further details (examples) are provided although it is not exhaustive.

General Comments:

Scope

The Zone of Influence (ZOI) should be evidence based and refer to relevant guidelines. For example, it would be expected that the bat Core Sustainance Zone (CSZ) would be used. The CSZ was designed to indicate:

- The area surrounding a communal roost within which development work might impact the commuting and foraging habitat of bats using that roost
- The area within which it might be necessary to ensure no net reduction in the quality and availability of foraging habitat for the colony, and CSZ are also important when considering/designing Biodiversity Net Gain see Bat-Species-Core-Sustainance-Zones-and-Habitats-for-Biodiversity-Net-Gain.pdf LD 118 Biodiversity Design provides guidance on species specific approaches to surveying. For example, for badger surveys 'a corridor of 500m (250m either side of the centre line of the road is usually sufficient'. Where deviation from guidelines is provided this should be justified.

Ecology surveys

Paragraph 99 of the ODPM Circular 06/2005 advises that the presence or otherwise of protected species, and the extent to which they might be affected by the proposed development, must be established before consent is granted. Therefore, if there is a reasonable likelihood of protected species being present and affected by the development, the surveys should be completed and any necessary measures to protect the species should be in place before the permission is granted. It is therefore recommended that where surveys are outstanding, or out of date, they are undertaken and the results used to update the Environmental Statement (eg see para 8.5.3, 8.7, of Chapter 8, and para 5.3.7 of the Bat Roost and Crossing Point Survey Report).

Similarly, where the red line site boundary has been amended, ecological surveys should be updated accordingly. For example, the survey area for the botanical surveys is substantially different from the order limit boundary submitted to PINS.

It is not clear why documents have been heavily redacted. Except for badger surveys, the information contained within is not sensitive.

Data should be passed on to Norfolk Biodiversity information Service as the earliest opportunity.

Avoidance

Unit 9 has been identified within the botanical surveys, as an area of potential ancient woodland which will be impacted by the scheme. As this has been omitted from subsequent assessments (Chapter 8) it is not clear if this has been considered and measures taken to avoid impacting irreplaceable habitat.

Paragraph 5.32 of the National Policy Statement National Networks (NPSNN) states that 'Aged or veteran trees found outside ancient woodland are particularly valuable for biodiversity and their loss should be avoided'. Where veteran trees would be affected by development proposals, the applicant should set out proposals for their conservation or, where their loss is unavoidable, the reasons for this.

Mitigation

As per comments made in the scoping opinion (TR10037-000010_THIC Scoping Opinion), mitigation measures in Chapter 8 should be described in full, and in detail. Evidence of the effectiveness of mitigation should be provided, and effectiveness defined.

Scoping opinion response (Ref 25) notes mortality (from collision risk) should be assessed in the Environmental Statement. Collision risk has been identified as an impact during construction (eg for great crested newts and bats) but mitigation has not specifically/clearly addressed the risk.

The proposed mitigation areas and enhancement areas are shown on Environmental Masterplan.

Enhancement

Para 8.4.15 refers to the DEFRA Biodiversity Metric 2.0. The calculations should be available for examination. Table 8-11 (page 51) 'Habitat types and areas to be remediated or enhanced' provides an indication but does the proposed development result in an overall biodiversity net gain of and if so, to what extent?

Areas where enhancements are to be secured are not shown on any of the plans. Land identified for mitigation and enhancements should consider future housing allocation sites eg the Greater Norwich Local Plan.

- Paragraph 8.4.20 [of the A47 NTE Environmental Statement, Chapter 8, Biodiversity] notes that "NCC have been consulted regarding barbastelle bats and the wider mitigation proposals for the proposed [A47] scheme", and that "bat mitigation implemented as part of the completed A1270 Broadland Northway and the associated monitoring data was discussed", with data being "exchanged on the locations of barbastelle bats" with a view to informing considerations relating to cumulative impact assessment.
- It is recommended that NCC is contacted again at the end of the 2021 survey season as surveys associated with the NWL are ongoing (2020 surveys for the NDR will be available online in due course). Please also note that Dr Charlotte Packman has been undertaking radio tracking surveys of the barbastelles in the NWL area. She should also be contacted for data. NCC understands that Dr Charlotte Packman believes that there

is a nationally significant breeding barbastelle colony of over 150 bats in this area. To date, however, no survey data has been shared with NCC or otherwise published by Dr Packman to provide supporting evidence which would substantiate Dr Packman's belief that there is a nationally significant breeding barbastelle bat colony in the area. Currently, the area is not formally designated as an SSSI or SAC on the basis of the presence of barbastelle bats, nor has it been selected for assessment by the Joint Nature Conservation Committee and, as such, it does not have the status of a notified SSSI or a possible SAC (pSAC). The Planning Inspectorate, as a public body, has a duty under Part 3, Section 40 of the Natural Environment and Rural Communities Act 2006, to have regard ...to the purpose of conserving biodiversity, to consider impacts of the road scheme, including in relation to this asserted colony.

- ~~Paragraph 8.4.20 notes that data has been shared by Norfolk County Council (NCC) regarding barbastelle bat roost locations associated with the Norwich Western Link (NWL) and Northern Distributor Road (Broadland Northway). Woods used by these barbastelle bats (eg the Ringland Hills, Hall Hills) are located within 6km CSZ of the proposed A47 Thickthorn Roundabout improvements. This should be a consideration of the cumulative impact assessment.~~
- ~~It is recommended that NCC is contacted again at the end of the 2021 survey season as surveys associated with the NWL are ongoing (2020 surveys for the NDR will be available online in due course). Please also note that Dr Charlotte Packman has been undertaking radio tracking surveys of the barbastelles in the NWL area. She should also be contacted for data. It is believed that there is a nationally significant breeding barbastelle colony of over 150 bats in this area. While this colony is not afforded SSSI or SAC status it would otherwise qualify as such. The Planning Inspectorate a public body, has a duty under Part 3, Section 40 of the Natural Environment and Rural Communities Act 2006, to have regard ...to the purpose of conserving biodiversity, to consider impacts of the road scheme on this colony.~~
- In section 8.7.8 Priority habitats identified under the Natural Environment and Rural Communities Act 2006 (NERC Act) are identified as national importance. No reference is given to Priority Species that are in the area.
- Para 8.7.53 states that all trees within 50m of the DCO boundary have had been subject to updated PRAs in 2020 but this contradicts para 5.3.7 of the Bat Roost and Crossing Point Survey Report which states that Preliminary Roost Assessment (PRA) surveys of a tree is required in 2021.
- Para 8.7.5 does not elaborate on how areas of 'high' bat activity was quantified.
- Table 8-9. (page 42) great crested newt. Notes that attenuation ponds are proposed as enhancement for great crested newts but it is not clear whether they will contain standing water, and for how long. Also, Table 8-12 (page 56) notes that the attenuation ponds are designed to reduce pollution entering nearby water courses, and as such would not provide suitable enhancement for great crested newts. There is no mention of enhancement of SuDS/attenuation ponds for great crested newt this in the Record of Environmental Actions and Commitments (REAC) in the Environmental Management Plan.

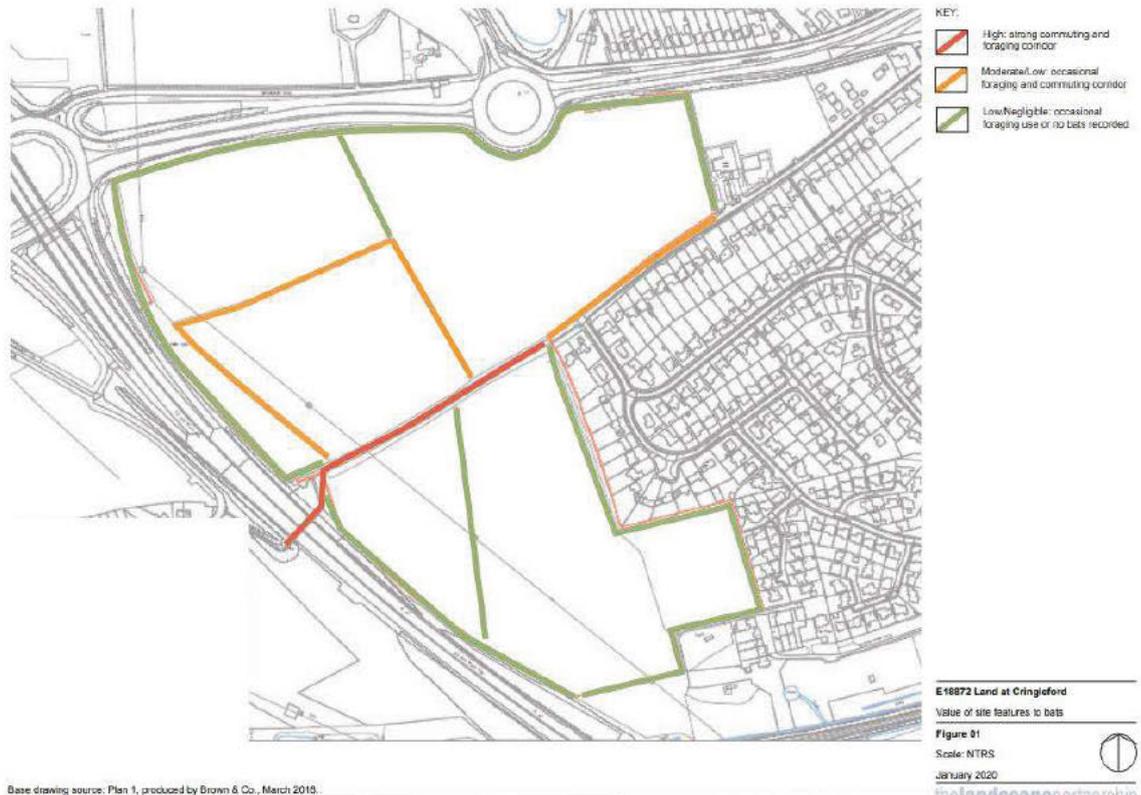
- Table 8-9 notes the translocation of 5m of important hedgerow but does not explain where this will be translocated to.
- Table 8-9 (page 39) notes that a UKPN cable is being installed within the CWS. It is not clear which CWS is referred to and this has not been previously mentioned in Chapter 8 or Chapter 15 – Cumulative Effects Assessment. Note: it is mentioned in B11 Table 3-1: Record of environmental actions and commitments
- Table 8-12 notes this will require a 6m wide trench but no mention is made to the area required for construction of this trench.
- Meadow Farm Meadows county wildlife site was not correctly mapped within the botanical surveys report.
- Table 8-9 (page 40) makes no mention of the potential ancient woodland within unit N. It is not clear if measures have been taken to avoid impacting this area.
- Table 8-9 Breeding birds – no mention is made of the ten skylark plots to be created in surrounding fields to mitigate for the loss of habitat, as recommended within the Breeding Bird, Hobby and Barn Owl Report.
- Table 8-10 (page 42). Great crested newts (GCN). Surveys for GCN had not been completed at the time of submission but should now (May 2021) have been nearly completed. It is recommended that the ES is updated to include the results of the surveys. If surveys have not been completed it is not known if this species is present and affected by works, or if a licence will be required. The presence (or absence) of GCN is a material consideration.
- Table 8-10 (page 49). Within this table details of the bat mitigation measures are not provided in detail. Eg no mention is made of the proposed 3m high environmental barrier for bats mentioned in B5 of the REAC (note it is shown as 3.5 m on sheet 4 of 5 of the Environmental Masterplan , or clusters of trees to guide bats towards the bat highway crossing points (see Environmental Masterplan sheet 4 of 5.
- The assessment must detail all mitigation measures proposed. For example in Tables 8-9 and 8-10 there is no mention of post and wire mesh fence to 'facilitate a known bat flight path' (see para 2.4.26 of Chapter 2), (and Environmental Masterplan) and it notes that Cantley Stream will be re-aligned but does not provide details of how much of the stream will be re-aligned.
- Paragraph 4.5 of LD 118 notes that 'only mitigation measures that are effective and proven shall be included in the project design' and paragraph 4.6 notes that 'where innovative or unproven mitigation measures are proposed, evidence of the consideration of uncertainty...shall be submitted.
- No evidence supporting the efficacy of mitigation measures, for example, the 'environmental barrier' for bats has been provided.
- Please note that CEDR (2016) (Conference of European Directors of Roads) concluded that hop-overs are not recommended as effective mitigation measures for Daubenton's bats, soprano pipistrelles and other species with similar flight behaviour (during the experiment temporary barrier screens 20m long and 4m high were placed across the bat

commuting route – it is not clear how long the proposed bat fence would be).

- The applicant should also define what effective means. For example, Berthinussen & Altringham (2015) note that a mitigation measure should only be characterised as effective if at least 90% of bats are using the structure to cross the road safely and the number of bats crossing the road transect has not declined substantially.
- Consideration should also be given to how soon mitigation measures would expect to be effective. A delay would perhaps be expected as vegetation matures. Please note that there may be annual variation in efficacy of mitigation. For example, in one year 50% of bats might cross at a safe height, and 95% another year.
- However, mitigation measure cannot be considered in isolation.
- The Arboricultural Impact Assessment notes that tree group G27, G1, G3, and an unlabelled tree group on the western side (see below) will be removed, equating to a loss of around 85m of linear hedge/feature (see below). The red areas circled in blue highlight the areas of vegetation to be removed along Cantley Lane.



- As alluded to within the bat report, Cantley Lane is an important commuting and foraging corridor for bats. Surveys undertaken in support of 2017/2120 9south Norfolk Council) show that it is of high value to bats (see below). See below: (taken from 2020/0499).



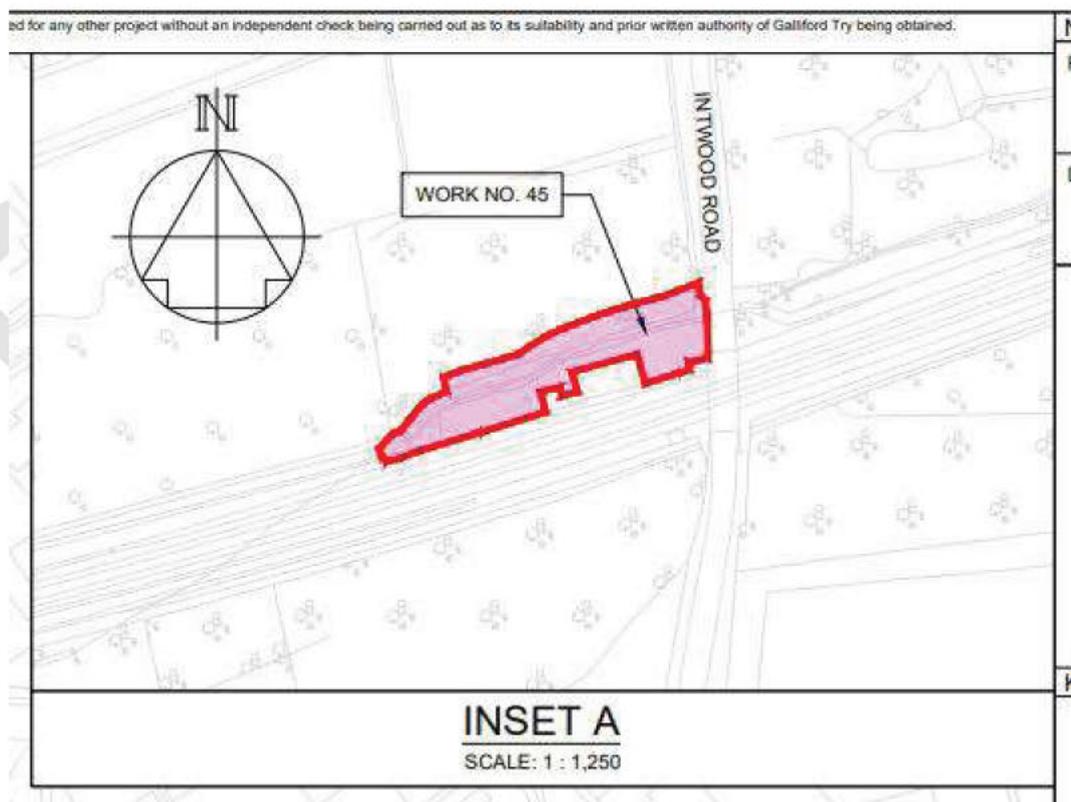
- The loss of substantial areas of vegetation on both sides of the A47, along the line of Cantley Lane, as well as that along the A47 to the south, shown on drawing no. 1050831-SWETHI-AIAP (in the Arboricultural Impact Assessment), will likely result in the loss of this commuting route across the road (a circa 170m gap), and/or increased risk of collision (no evidence has been provided to suggest that the proposed mitigation will be effective. Vegetation also provides bats with shelter from wind and protection from predators. The vegetation also provides a buffer for road noise and head lights.
- Page 53: We agree that habitat loss can, in time, be mitigated for by additional tree planting. However, we disagree that severance can also be mitigated for in this way. Parallel planting along the road does not mitigate severance caused by road widening.
- It is noted that a bat licence required for loss of roosts.
- Table 8-10 Water vole (page 53). No details are provided regarding the:
 - Area required to mitigate for habitat losses,
 - Area of habitat to be created as enhancement,
- The Environmental masterplan shows where mitigation and enhancements for water voles will be located.
- It is noted that a water vole licence will be required.
- Details of species rich grassland is shown within the Environmental Masterplan but this is shown within proximity to the road. Where will barn owl habitat be created?
- Table 8-11 Details of losses or gains in aquatic habitats are not provided
- Table 8-12. Consideration should be given not using topsoil on the verges and in preference to a generic seed mix we would recommend that locally

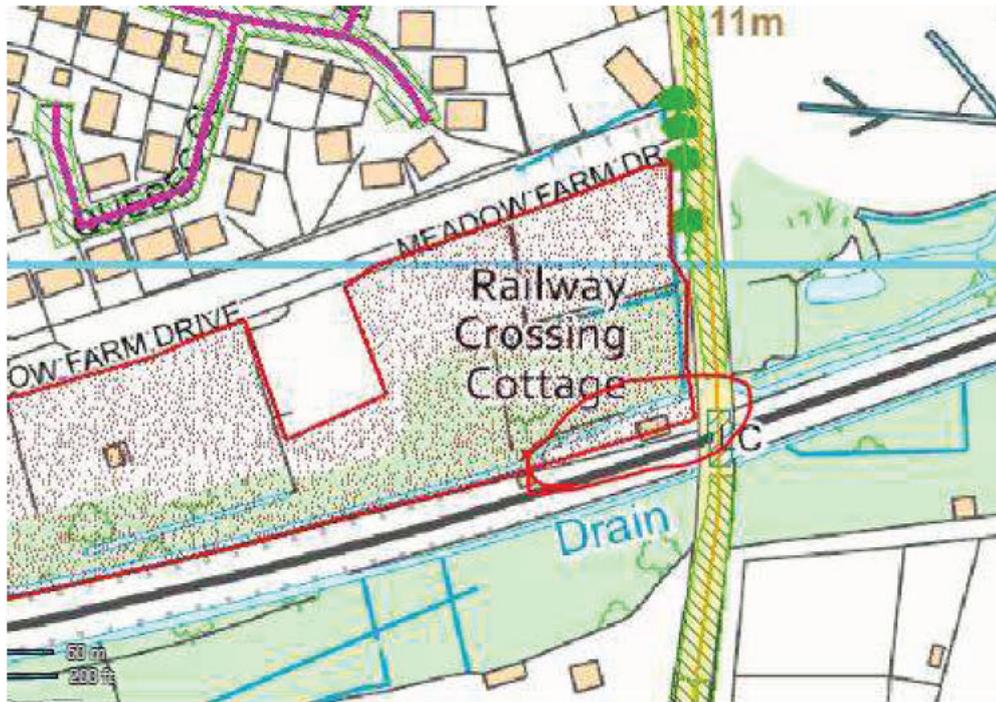
harvested wildflowers (e.g. from a local CWS) is used in the creation of species rich grassland.

- 8.11.4 notes that details for monitoring is provided within the Environmental Management Plan

Environmental Statement - Appendix 8.1 Botanical Survey Report.pdf:

- The survey area (see figure 1a, page 9) differs from the current DCO red-line site boundary (see General Arrangements Plan).
- It is noted that Areas 'G' and 'I' are of district value, as is Meadow Farm county wildlife site (CWS).
- Hedgerows H2, H3, and H6 likely to be of ecological importance under the Hedgerow Regulations 1997 although it is not clear which hedges these refer to, or which hedges were surveyed as no plan showing, for example, H1, H2, H3... etc. has been provided. The Volume 2 2.12 Hedgerow Plans document does not use the same system (H1...H2) to identify hedges.
- Para 7.6 notes that there will be a direct loss of an area of Meadow Farm CWS to facilitate construction of the slip road and drainage ditch however in Chapter 8 (Table 8-7) it notes that the impact is temporary. It is not clear what the impacts will be and if there will be a permanent loss of CWS
- Work No. 45 (environmental mitigation) is located within Meadow Farm CWS (see below) but this does not appear to have been identified by the applicant. It is not clear what works are planned in this area.

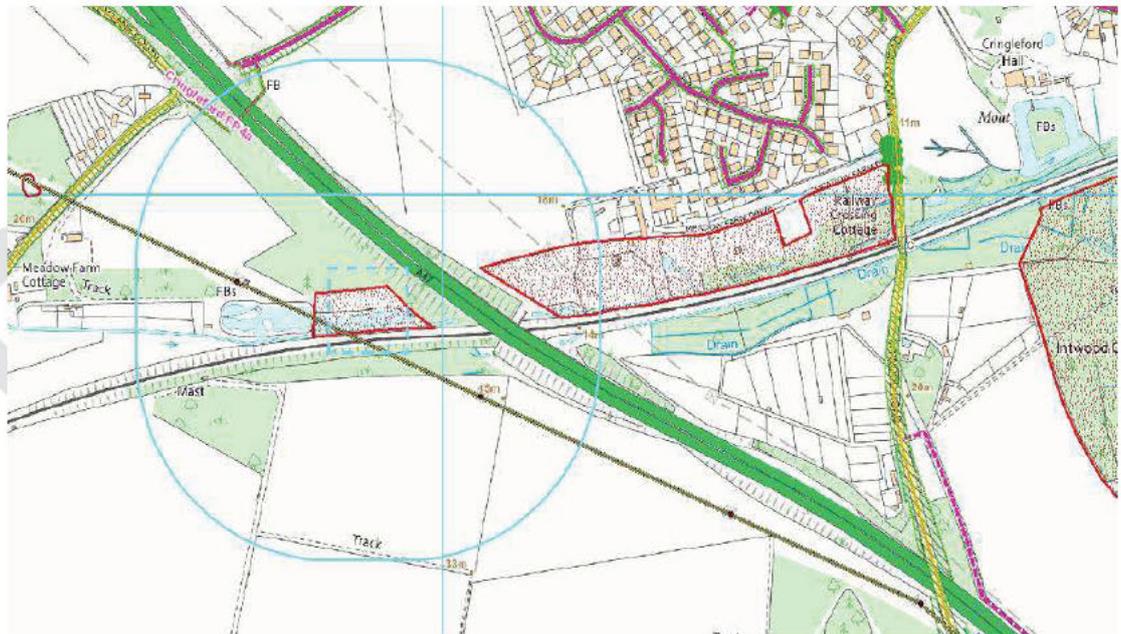




WORK ORDER 45

- Work Nos. 6 and 40 may also impact Meadow Farm CWS. Work No 49 abuts Meadow Farm CWS. Work No. 42 directly impacts Meadow Farm CWS and is associated within utilities diversion – it is not clear if this is associated with the UKPN cable route.
- Meadow Farm CWS is only shown to the right of the A47 (top, below). However, it extends to the left of the A47 as shown (bottom, below). This will affect the impact assessment and mitigation requirements.

Figure 2b



- Para 7.6 also notes 'The southern edge of Area N, a priority habitat and potentially ancient woodland (present since at least 1840) will be impacted by a new road. This will be an intermediate impact on this feature. Mitigation is advised' the potential presence of ancient woodland is not mentioned elsewhere and Chapter 8 only refers to veteran trees on the ancient woodland inventory (para 8.7.14)
- It should be established if this woodland is ancient and the scheme re-designed to avoid this area as recommended in section 8 of the botanical

report. It is noted that this is not reflected in para 6.1 which assigns area N as of local value only.



Environmental Statement Appendices Appendix 8.2 – Terrestrial Invertebrate Survey Report:

- Sampling points for the 2020 were chosen based on surveys undertaken in 2017. It is not clear how the 2017 surveys locations were identified. For example, the surveys area represents only part of the order limit boundary.
- Impacts from loss of veteran oak trees on species of conservation concern including nationally rare *Quedius dilatatus* and *Aulonothroscus brevicollis*. It is not clear how this will be mitigated.

Environmental Statement Appendices Appendix 8.3 – Aquatic Macroinvertebrate Survey Report:

- Surveys were undertaken in 2017 (AECOM) and in 2020. Sampling points in 2020 were as previously used in 2017. It is not clear how the sampling points were identified in 2017 or if they are representative.

Environmental Statement Appendices Appendix 8.4 Great Crested Newt Survey Report:

- Please note that the Great Crested Newt Habitat Suitability Index Advice Note from Amphibian and Reptile Groups of UK (ARG UK) states that the Habitat Suitability Index (HSI) 'is not a substitute for newt surveys'. It is not a predictor of the likely presence or absence of this species. This view is also supported by the National Amphibian and Reptile Recording Scheme (NARRS)
- Please also note that eDNA surveys only provides presence or absent data. It does not provide information on populations, required in order to apply for a Protected Species mitigation licence from Natural England. If the applicant proposed to apply to the DLL scheme the IPROC should be submitted to PINS.
- If great crested newts are present it would be expected that gullies are not used to prevent newts becoming trapped see here.

Environmental Statement Appendices Appendix 8.5 – Reptile Survey Report:

- No compensatory habitat is proposed for reptiles found to the north of the A11 but it is noted that a mitigation area is shown on the Environmental

Masterplan sheet 4 of 5 to the south. Given that the reptiles were recorded to the north of the site, and the A11 will act as a potential barrier to movement the efficacy of this mitigation area is queried.

Environmental Statement Appendices Appendix 8.6 Breeding bird, hobby and barn owl survey report:

- It is not clear what the survey area was for the barn owl survey (para 5.22 only notes that sites identified by AECOM 2017 were surveyed). Chapter 15 -Cumulative Effects Assessment notes that this was 1.5 km of the proposed scheme. This should be clarified.
- It is noted that the barn owl report recommends compensatory rough grassland should be created alongside the proposed scheme (para 7.2.5) to compensate for foraging habitat that will be lost and that several nest boxes are placed near the proposed drainage basin (para 7.3.3)
- Paragraph 7.3.3 Please note that barn owl boxes must be placed no closer than 1.5km from the road (Shawyer, 2011: 3 (Shawyer, C.R., 2011. Barn Owl *Tyto alba* Survey Methodology and Techniques for use in Ecological Assessment: Developing Best Practice in Survey and Reporting. IEEM, Winchester))
- Consideration will need to be given to where compensatory habitat will be provided so as to avoid potential for collision

Environmental Statement Appendices Appendix 8.7 – Wintering Bird Survey Report:

- The Scottish Biodiversity List (2012) is not relevant to this scheme

Environmental Statement Appendices Appendix 8.8- Bat Roost and Crossing Point Survey Report:

- The 6.3 Environmental Statement Appendices Appendix 8.6 Breeding bird, hobby and barn owl survey report notes a brown long-eared bat feeding roost is present at Site 1 - Metal Shack (para 7.2.1). This should be mentioned in the bat report.

Environmental Statement Appendices Appendix 8.9 Otter and Water Vole Report:

- Additional surveys of potential holt locations required.
- Habitat enhancement for water voles is shown on the Environmental Masterplan

Environmental Statement - Appendix 8.11 Confidential Badger Survey Report:

- Standing advice for badgers notes that when determining if setts are in use they should be monitored over an extended period of time e.g. up to 4 weeks. The surveys do not conform to standing advice.
- 4.1.1 and 4.1.2 notes that the sett is 'partly used' but in 5.1.1. it contradicts this by saying 'none of the setts...were found to be currently in use'.
- It is not clear if the sett is active.

Lighting design provided in Volume 6.8 Environmental Masterplan (TR010037/APP/6.8):

- Lighting design has considered the Institution of Lighting Professional's (ILP) GN08 – 18 – Bats and Artificial Lighting in the UK.
- It is proposed that lighting will be designed will backlight shields (see pages 52, 53, 54) and LED bulbs to reduce light spill. Please note that the luminaires proposed in the lighting proposal PHILIPS LUMA BGP 704 TYPE; LUMA BGP705 may not be suitable for shields. This should be checked with the manufacturer.
- It would be beneficial to include a plan showing what the lighting scheme will look like at night (with contours).

Chapter 15 Cumulative Effects Assessment:

- See comments regarding CSZ for bats.

Environmental Statement Report to inform Habitats Regulations Assessment:

- Natural England have been involved with preparation of the HRA, and agreed with the conclusions of the Draft HRA, in November 2020.
- We broadly agree with the conclusions but would note that NCC understands that Dr Charlotte Packman believes that there is a nationally significant breeding barbastelle colony of over 150 bats in the area. Currently, the area is not formally designated as a SSSI or SAC on the basis of the presence of barbastelle bats, nor has it been selected for assessment by the Joint Nature Conservation Committee and, as such, it does not have the status of a notified SSSI or a possible SAC (pSAC).
- ~~We broadly agree with the conclusions but would note that there is a nationally significant breeding barbastelle colony of over 150 bats in the area around ROAR Dinosaur Park extending into the Ringland Hills, Hall Hills woods and beyond. While this colony is not afforded SSSI or SAC status it would otherwise qualify as such.~~
- Para 3.3.2 notes that otter surveys were undertaken in 2016, 2018 and 2020. This differs from the survey information provided in Appendix 8.9 Otter and water vole report, which notes that a Phase 1 surveys was undertaken in 2016 (see para 2.1.2).
- Para 3.3.2 states botanical surveys were undertaken in 2016 although Appendix 8.1 – Botanical Survey Report notes that the botanical surveys were undertaken in 2017 (chapter 2), and 2020 (see para 4.3). It is not clear if the Phase 1 surveys undertaken in 2016 comprised full botanical and otter surveys.
- Chapter 3 considers in combination effects. The reader is directed to ES Chapter 15 (Cumulative effects assessment) (TR010037/APP/6.1). For the assessment of cumulative effects and the list of the proposed developments. This information should be provided within the HRA.
- The HRA is a multi-stage process which helps determine Likely Significant Effects (LSE) and (where appropriate) assess adverse effects on the integrity of an NSN: human and heritage receptors are not pertinent (see 3.4.4).
- Para 3.4.8 (below) - It is not clear why reference has been made to Bechstein bats as this species is not present in Norfolk. We (the Natural

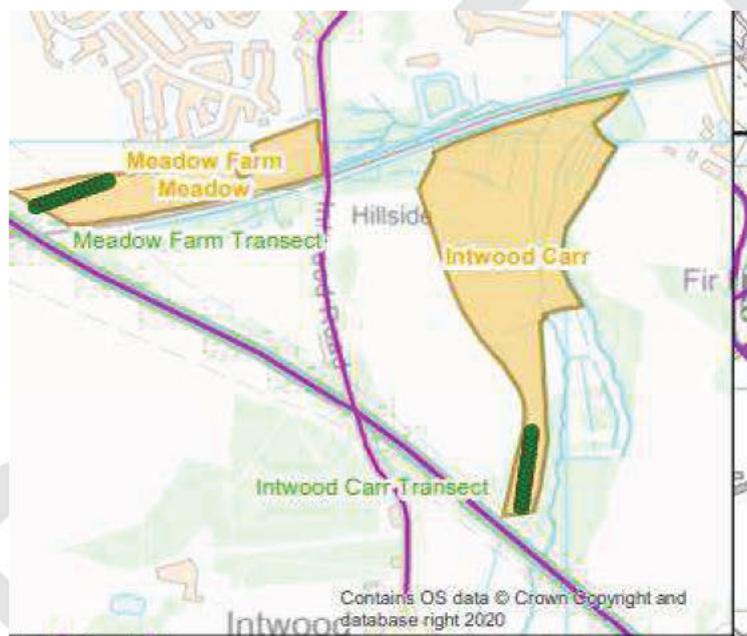
Environment Team) were consulted in January 2021 with regards to the Long List. During this consultation we queried the use of a 2km CEA ZOI, suggesting the Core Sustenance Zones of bats is used. No mention was made to Bechstein bats.

Volume 3 3.1 Draft Development Consent Order:

- Schedule 8, part 2 refers to the removal of important hedgerows (H3 and H4). In Chapter 8 (Page 40) it states that 5m of a section of important hedge will be lost. It is not clear how many metres of important hedge will be lost (Norfolk County Council has been unable to locate a plan showing where these hedges are).

Volume 6 6.2 Environmental Statement Figures 5.5 – 5.8:

- It is not clear what the 'ecological transects' (see below) relate too – for example they do not represent transects undertaken for breeding bird, or bat surveys.



Environmental Management Plan (EMP) First Iteration and Record of Environmental Actions and Commitments (REAC):

- Should accurately reflect recommendations made within the ecology report, and chapter 8.
- The EMP does not mention design of attenuation ponds for great crested newts (only mentions SuDS on page 42) this is also not shown on the Environmental masterplan
- Notes a Landscape and ecology management plan (LEMP) will be prepared.
- Table xx B1 please can the reports be sent to neti@norfolk.gov.uk.
- B5 notes that trees will be retained at the end of Cantley Lane south – this is contrary to details within the AIA.
- Table 4-1 should also mention that the need for a great crested newt licence needs to be confirmed following completion of surveys.

- Table 6.1.
 - B5 – Monitoring of the effectiveness of the bat crossing point and wider road (to establish if bats cross elsewhere) should also be undertaken. Thermal imaging/infra-red cameras should be used.
 - B6/B7. Road casualty surveys design needs to be effective – use of sniffer dogs is recommended and should cover the entirety of the road. Triggers should be identified for where additional mitigation is required.

The county council was not able to locate the Phase 1 habitat survey, or any of the original survey reports undertaken by AECOM, on PINS.

4.11. **Geology and Soils**

The proposed scheme would result in a significant effect on agricultural land, causing permanent and temporary loss of agricultural land. The scheme proposes a Soil Management Plan be developed to preserve land quality. Provided mitigation measures are effective and temporary land takes are restored, the long-term effects on agricultural soils would be limited to the area of agricultural land which is permanently lost; the summary suggests this is a significant and moderate effect.

The summary identifies two potential sources of contaminated land which present a possible risk to human health resulting from ground gas production. These sites are Cantley Lane landfill and an infilled gravel pit. It is noted there are appropriate mitigation measures to ensure the potential sources are managed.

4.11.1. **Comments**

The council has no comment on this section.

4.12. **Material Assets & Waste**

The assessment concludes that taking into account the design, mitigation and enhancement measures to be implemented during construction, it is considered that these developments would generate low quantities of waste in relation to the baseline landfill capacities for the east of England region.

The comments set out below relate to Norfolk County Council in its capacity as the Minerals and Waste Planning Authority. Where they refer to paragraphs, this is in respect to the Environmental Statement Appendix 10.4 – Mineral Impact Assessment.

4.12.1. **Comments**

The Mineral Planning Authority (MPA) welcomes the inclusion of a Mineral Impact Assessment as part of the proposed scheme. The MPA agrees with the summary of mineral resources within the scheme and the constraints which are outlined in paragraphs 10.3.16-10.3.18 (of the Mineral Impact Assessment. The MPA also agrees with the assessment of reuse suitability of site-won materials as outlined in paragraphs 10.5.8.-10.5.14.

The MPA notes that an estimate of 107,500m³ of site won material is likely to be extracted during the construction phase, as outlined in paragraph 10.5.13. The MPA recognises that this an estimate and that a full assessment of the reuse potential of material will be required as it is excavated. Paragraph 10.5.14 states that the scheme has a significant earthworks material deficit, and therefore any opportunity to reuse the excavated material will be taken.

In conclusion, the MPA considers that the Mineral Impact Assessment appropriately assesses the safeguarded mineral resources for the proposed scheme and contains an appropriate strategy for identifying suitable material for reuse in the construction phases of the scheme. Norfolk County Council, in its capacity as the Mineral Planning Authority, considers that if the scheme is required to follow the strategy outlined in the Mineral Impact Assessment this will effectively address mineral safeguarding issues relating to resource sterilisation.

4.13. **Noise and Vibration**

The Environmental Statement Non-Technical Summary notes that mitigation measures will be provided to protect noise sensitive receptors which are foreseen to experience significant noise effects resulting from construction of the proposal. These are temporary noise barriers and real-time noise monitoring.

The assessment concludes there are no significant traffic noise effects predicted from the proposed schemes operations, and therefore no mitigation is suggested.

4.13.1. **Comments**

The county council would expect disruption to be kept to a minimum during the A47 dualling construction period and would want to work with Highways England, or its contractors, on managing traffic during the works.

4.14. **Population and Human Health**

The Environmental Statement Non-Technical Summary notes the potential significant effects for population and human health as a result of the proposed scheme.

The assessment concludes that, during construction:

- Traffic management measures will disrupt access along the local road network for local residents and businesses, causing longer journey times and severance of communities and their facilities
- Impacts to health in terms of noise, dust and visual intrusion
- Disruption to farming operations within the DCO boundary

Permanent impacts would include:

- Residential properties and businesses on Cantley Lane South will likely experience longer journey times due to changes to access
- Loss of a proposed area of formal public open space at Cringleford Residential Development unless a suitable alternative can be agreed with the developer and local planning authority

- An increase in journey time for users of footpath FP4a due to diversion of the footpath for the new bridge for walking, cycling and horse riding
- Improved safety: a proposed 40mph speed limit on the B1172 Norwich Road and introducing traffic lights for those accessing community assets and Thickthorn services
- Reduced journey times for Round House Park residential area and residential properties and businesses on Station Lane.

In relation to the footpath issue noted above, this connects via a footbridge across the A47 Cantley Lane South to Cantley Lane North. The bridge is being relocated further east, by 45m, to accommodate the revised slip road arrangements. The current Pegasus crossing (which accommodates foot, cycle and horse-riding movements) across the A47 slip roads to the west of Thickthorn junction will be revised so that horse crossing movements are accommodated by the new bridge connecting Cantley Lane north to south. However, no further improvement for cyclists or walkers is proposed across the slip roads, which form part of the new Norwich-Hethersett-Wymondham cycleway (ie it will remain as an at-grade signalised crossing of the slip roads).

Members should note that officers are currently in discussion with Highways England regarding construction about how the scheme might be constructed. The works have the potential to severely affect operation of the trunk road (and local networks) during construction. Two options might be worthy of consideration: the first to close the trunk road for a relatively short period whilst the major work (eg underpasses) are put in place; the second option might be to keep the trunk road open during construction, although this would result in impacts overall lengthy period of time.

4.14.1. **Comments**

The provision of a new walking, cycling and horse-riding (WCH) bridge across the A47 connecting Cantley Lane South to Cantley Lane North is supported as current WCH provision here is not ideal so underused or misused, indicating revised facilities are needed. Consequently, the removal of the current Pegasus crossing (on the A47 slip roads west of the junction), and the necessity of diversion and/or extinguishment of existing Public Rights of Way, either to accommodate construction or to link to the new bridge, is accepted and supported. However, in order for this bridge to fully accommodate all WCH use, a surface suitable for equestrian use must be incorporated into the design and should link into other new WCH facilities (see below). Should it not be possible to have the new route in place before extinguishing the old, the relevant temporary closures and/or diversion orders will be required to maintain continuity of WCH access where possible.

We note the additional WCH route along the new Cantley Lane link road with crossing facility connecting to the existing WCH provision on Norwich Rd providing additional links to the Wymondham to Sprowston Pedalways cycle route. However, given the recent investment by the county council through DfT's Transforming Cities and Cycle Ambition Grant to create a continuous walking/cycle link between the residential growth areas in Wymondham and Hethersett to the centre of Norwich, the lack of improvements to the existing

WCH provision at the Thickthorn junction and no provision along Cantley Lane South from the new link road to the new WCH bridge represents a missed opportunity to build on the recent investment in the area and encourage growth in walking and cycling.

The construction of a new private means of access on Cantley Lane South may affect the alignment of a Public Right of Way, Hethersett Footpath 6 with the risk of creating a short length of highways maintainable inaccessible PRow. Layout and design of this junction must take this into account and be adjusted accordingly.

- 4.14.2. The county council welcomes discussions with Highways England about options for construction. The works have the potential for significant impacts, not just to the operation of the trunk road, but also over a wider area of the local transport network. The council accepts that such works will cause some impacts and wishes to work with highways England on how these best be mitigated.

4.15. **Road Drainage and the Water Environment**

The non-technical summary lists the key surface water receptors within the study area as Cantley Stream, Intwood Stream and local ponds; the River Yare is identified as a potential receptor as it is downstream of Intwood Stream. The key groundwater receptors within the study area are aquifers, Cantley Stream and lowland fen priority habitats.

It states that the new carriageway will discharge surface water to Cantley Stream and runoff to oversized pipes and attenuation ponds, designed to attenuate a 1 in 100-year storm event (plus a 20% climate change allowance with a sensitivity check at 40% climate change) in line with guidance. The proposed scheme design incorporates treatment of road drainage prior to discharge to groundwater.

The summary shows mitigation is proposed for property level protection at a residential property upstream of Intwood Road to negate the risk of flooding. There are no other residential properties impacted by the proposed scheme.

Aside from the moderate significant impact of flood risk within the Cantley Stream floodplain, with mitigation it is not expected to cause additional significant effects, during construction or operational phases.

4.15.1. **Comments**

The Lead Local Flood Authority (LLFA) team has been in on-going consultation with Highways England between September 2020 and March 2021. The LLFA acknowledge there are some remaining comments which require addressing, and some on-going activities relate to requests for clarification or further information comments from the LLFA during 2021.

Cantley Lane South Culvert

The LLFA acknowledge the 600mm freeboard requirements in the new Cantley Lane South Culvert were not possible due to the environmental and ecological

considerations. This resulted in a reduction to the minimum freeboard through the culvert to 0.428m during the 100-year plus 65% climate change event.

Cantley Stream Floodplain

The LLFA acknowledge there will be significant improvements to the floodplain extents and the level of flood risk posed due to the new Cantley Lane South Culvert (Figure 8-4 in the Flood Risk Assessment (FRA)). However, the LLFA also observe some variation in the floodplain within agricultural land and water compatible areas (Figures 8-5 and 8-6 in the FRA). It appears from the information presented that the existing water level in these locations could increase by up to 15mm along with minor variation in the location marginally. This could be influenced by the sensitivity of the hydraulic model to the ground model used. Even so, it would be prudent for the developer to liaise with the affected landowners to confirm they are aware and accept this potential change to their properties.

The FRA should provide detail on the maintenance plan for the mitigation measures proposed by the scheme. No information is provided regarding the inspection frequency, monitoring measures or structure ownership and operational responsibility. The LLFA would expect this information to be included in the FRA. It is noted that the drainage strategy provides some high-level information about who will have maintenance responsibility for the drainage assets on the different sections of road.

Intwood Road Property

The potential impacts and the implications of the flood risk at the property on Intwood Road varies between the FRA and the ES. The FRA reports an 8mm increase while the ES chapter 13 reports 15mm. While the increase in water level is small, both documents report that further survey at the property is required to fully determine the impact of this change in water level. The LLFA would expect to review the future survey results, the updated impact assessment for this property and any mitigation proposed, should it be necessary.

Groundwater Further Survey

There is the remaining supplementary groundwater investigation that is yet to be undertaken due to the unknown water levels in the chalk aquifer. The LLFA would expect to review these results and, if required, any further mitigation measures proposed to address any further groundwater flood risks identified by this study.

Drainage Strategy Summary

A summary of the proposed drainage catchments is provided in section 8.3 of the FRA. However, no information relating the pre and post development runoff rates, volume of attenuation required and information relating to infiltration testing is provided. The drainage strategy does not provide a summary of pre and post development runoff rates, a summary of the volume of attenuation required and proposed or information relating to infiltration testing. This should be provided in

the FRA to ensure that the assessment is joined up with the drainage design presented in the drainage strategy.

Construction Phase Mitigation

The construction phase mitigation measures presented in the FRA are “high level generic” approaches and do not relate specifically to the phased construction of the junction improvements. There is no explanation of what the proposed temporary drainage works will include or where the different temporary features will be located. It is indicated in the FRA that elements of the scheme “must be constructed in a phased manner to avoid additional flood risk”. However, there is no further information about the phasing of either the temporary or permanent drainage works or information about how this relates to the construction phasing of the proposed scheme. Further information is expected by the LLFA to demonstrate that flood risk will not be increased elsewhere in the relevant catchments during the construction phase.

The LLFA seeks assurances that further information and work will be undertaken in the future in the interests of managing potential future flood risk that could be derived from the construction of this scheme. In relation to the drainage strategy, no information regarding the proposed drainage approach is provided for the construction stage. Therefore, the information presented in the ES chapter 13 is not substantiated by the current evidence base presented. The LLFA seeks assurances that further information will be provided regarding the construction drainage strategy to ensure there is no increase in flood risk during the construction phase, prior to the permanent surface water drainage system becoming operational.

Drainage Strategy

The drainage strategy confirms that not all existing drainage assets (such as soakaways and commercial fishponds) have been identified and investigated. Further work is ongoing to identify and survey these and other assets. The LLFA seeks reassurance that this work will be undertaken, and the subsequent assessment reported and discussed with the LLFA.

The drainage strategy has been developed in accordance with the Design Manual for Roads and Bridges (DMRB) guidance. However, there appears to be no consideration or review of the LLFA’s design expectations or the alignment of these with the DMRB guidance. The LLFA’s design expectations that apply to all schemes are presented in the LLFA’s developer guidance. The LLFA notes the drainage strategy does not refer to the LLFA’s Developer Guidance. This is supported by the developer’s reported use of the FSR approach rather than the more relevant and updated FEH approach within the MicroDrainage calculations to design the piped network. The FEH data includes more recent rainfall records and improved accuracy in the hydrological assessment. The LLFA seeks assurances that testing of the proposed drainage network using the FEH rainfall approach is undertaken to confirm that the network is appropriately sized.

In section 5.2.22 of the drainage strategy, an impermeable factor 26% is used for soft surfaces, inferring that the majority of surface water is able to infiltrate into

the ground, while for hard surfaces a 100% impermeable factor is used. However, later in section 5.4.4 infiltration was dismissed as infiltration testing was unsuccessful. These two approaches oppose each other, based on the information provided. Further assessment is required to address this conflict. It is possible that the soft surface impermeable factor would need to be revised upwards and that a review of the implications is necessary to ensure that there is no increased risk of flooding.

There is no obvious discussion on the infiltration potential of the ground prior to reporting on the potential discharge options in section 5. Therefore, it is not possible to understand the context and evidence base that the selection of the discharge locations was founded upon.

The drainage strategy provides a summary of post development runoff rates and attenuation volumes for the post development scenario. However, the equivalent information is not available for the pre-development situation. Both sets of information should be provided for each discreet drainage catchment to enable a suitable comparison.

The drainage strategy does not provide information relating to infiltration testing that has been reported to have been undertaken. The LLFA would expect relevant information and results to be reported in both the drainage strategy and FRA to support the proposed drainage design.

A ground investigation is mentioned within section 5. However, again, no information or evidence is provided to support the statements made. There is a limited mention of the groundwater levels, although no further information or evidence is provided. It would be reasonable for relevant information from the ground investigation to be provided in the drainage strategy to support the design decisions.

In the land to the west of the diverge of the A11 with the link road the use of a pipe and piped storage rather than a ditch is proposed. The LLFA requests that further evidence to justify the selection of a pipe and tanked storage through this woodland area is provided.

In relation to the residual risks associated with the proposed pumping station, further information is being sought by the developer to determine the normal operation design storm criteria and failure provision, which may include additional emergency storage provision to mitigate flooding on the carriageway. Once this is determined, it is likely to require the assessment of the potential exceedance flow paths due to asset failure or design exceedance. This would identify where the water would flow and the impacts on the highway infrastructure likely to occur. The LLFA note that the emergency storage for the pumping station is being considered. Should this be necessary, the LLFA would require further information that identifies the design capacity of this storage.

4.15.2 The LLFA considers there to be an issue regarding the requirements section for surface and foul water drainage. The LLFA would like the draft DCO to be updated to recognise the right organisations by naming them rather than the planning authority (which does not normally have involvement in these aspects).

Please see the proposed wording below.

Requirements

Surface and foul water drainage

8.—(1) No part of the authorised development is to commence until for that part written details of the surface water drainage system, reflecting the drainage strategy and the mitigation measures set out in the REAC including means of pollution control, have been submitted to and approved in writing by the Secretary of State following consultation by the undertaker with Norfolk County Council as Lead Local Flood Authority on matters related to its function as statutory consultee.

(2) No part of the authorised development is to commence until for that part written details of the foul drainage system, reflecting the drainage strategy and the mitigation measures set out in the REAC including means of pollution control, have been submitted to and approved in writing by the Secretary of State following consultation by the undertaker with Anglian Water on matters related to its function.

(3) The surface water drainage system must be constructed in accordance with the approved details, unless otherwise agreed in writing by the Secretary of State following consultation by the undertaker with the Norfolk County Council as Lead Local Flood Authority on matters related to its function as statutory consultee, provided that the Secretary of State is satisfied that any amendments to the approved details would not give rise to any materially new or materially different environmental effects in comparison with those reported in the environmental statement.

(4) The foul water drainage system must be constructed in accordance with the approved details, unless otherwise agreed in writing by the Secretary of State following consultation by the undertaker with Anglian Water on matters related to its function, provided that the Secretary of State is satisfied that any amendments to the approved details would not give rise to any materially new or materially different environmental effects in comparison with those reported in the environmental statement.

4.15.3 It is noted that there is no mention of the ordinary watercourse consenting process. Therefore, the LLFA would like to include the proposed wording below into the DCO:

Works in a watercourse(s)

x.—(1) No stage of the works involving the crossing, diversion, alteration, replacement and installation of new structures of any designated main river or ordinary watercourse may commence until a scheme and programme for any

such permanent or temporary crossing, diversion, alteration, replacement and installation of new structure in that stage has been submitted to and, approved by the Secretary of State in consultation with Norfolk County Council, the Environment Agency, relevant drainage authorities and Natural England.

(2) The designated main river or ordinary watercourse must be crossed, diverted, alteration, replacement and installation of new permanent or temporary structures in accordance with the approved scheme and programme.

(3) Unless otherwise permitted under paragraph (x.1), throughout the period of construction of the works, all ditches, watercourses, field drainage systems and culverts must be maintained such that the flow of water is not impaired or the drainage onto and from adjoining land rendered less effective.

4.15.4 Furthermore, we note that there is no mention of the need to involve the LLFA in relation to the review of the temporary surface water drainage plan as part of the EMP. This needs to be addressed. We request that this be added as a requirement, maybe as a part 3 to 8 for the temporary works.

4.16. **Climate**

The construction, operation and use of the proposed scheme is predicted to increase carbon emissions. The Environmental Statement Non-Technical Summary states that guidance on gauging the significance of carbon emissions in Environmental Impact Assessment (EIA) is evolving, but that a definitive assessment of materiality is not possible.

The non-technical summary also sets out that the vulnerability of the proposal to projected changes in climate during operation has been assessed, and it has been deemed resilient. Therefore, no significant effects as a result of climate change are anticipated.

4.16.1. **Comments**

The county council is pleased to see the Environmental Statement Chapter on Climate is comprehensive in discussing the relevant policy triggers.

The scheme follows Highway England's Carbon Tool to evaluate and identify impacts, including the supply chain. The sections referencing Publicly Available Specification 2080:2016, Carbon Management in Infrastructure (PAS 2080), most notably section 14.9.3 (of the Environmental Statement Chapter 14 – Climate), suggests alignment to this. The county council would like to see the scheme accredited to this standard, as it is the national carbon standard for construction projects. Without accreditation, Norfolk County Council would seek justification for its exclusion.

The Effects on Climate section of the document (14.10.2) references the relatively small carbon impact of this scheme with regard to the UK's Carbon Budget Programme. However, the county council would suggest instead setting the impact against the cumulative impact of the projected programme of RIS2

and would like to see that a form of evaluation of this has taken place during the process, to align with the national commitment to RIS2.

The Environmental Impact Assessment (EIA) aligns with government policy and relates all significant road network schemes to their 'material impact' on meeting national carbon budget targets. The county council would suggest using the context of transport in isolation and provide analysis at a county level, using county-based transport data; the impact would then not be diluted into the UK's overall impact. There is a need to demonstrate how each scheme will meet the path to net zero by 2050 on a scheme by scheme basis.

The county council would want to work closely with Highways England to identify measures to reduce carbon emissions on the trunk road network, eg by installation of electric vehicle charging points to encourage electric vehicles, and understand how these will be brought forward, their impact on emissions reduction and how they dovetail with measures that local partners are taking on the local transport network and across other sectors. There is the potential for biodiversity and landscape to provide mitigation factors, although these would need to be significant, above baseline net gain requirements.

4.17. **Public Health**

4.17.1. **Comments**

The county council makes the following general comments in respect of its role as having public health responsibilities:

- Welcome reductions in driver stress for both general well-being and accident reduction potential
- Residents currently or likely to be affected by noise, vibration and potential increased pollution are screened for impact and potential mitigating action.

4.18. **Discharge of Requirements**

As part of the application process there will be a need for a series of planning requirements (akin to planning conditions) attached to the final consent (Development Consent Order) covering a range of detailed matters. In the event that the DCO is granted by the Secretary of State these requirements will ultimately need to be discharged as the development progresses. The discharge of conditions is normally undertaken by the determining authority (ie local planning authority) for non-NSIP schemes. For NSIP schemes there is the potential for the discharge of the requirements to be undertaken by either the district councils and/or the county council.

4.18.1. **Comments**

There are ongoing discussions with the applicant and the district councils affected by this scheme as to how best the discharge of requirements should be undertaken. One option might be that there is a single "lead" Authority discharging the requirements. An alternative option would be that each local authority discharge those requirements within their respective area / statutory remit. It is understood that the applicant is prepared to fund the above "discharging" work given the significant resource implication.

4.19. **Conclusion**

Norfolk County Council supports the principle of upgrading the existing A47/A11 Thickthorn Junction subject to:

- (a) The implementation of appropriate highway, historic environment, and surface water conditions / requirements being resolved through the DCO process.
- (b) The detailed comments set out in this report being addressed through the DCO process.

The County Council continues to work with Highways England, as evidenced in our Statement of Common Ground, in order to resolve the above issues.

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Appendix A: Location Plan

NB: High resolution plans can be found [here](#) on the Planning Inspectorate website.

