Norfolk County Council

# Local Impact Report

A47 / A11 Thickthorn Junction – submitted Development Consent Order Application

Identification No. TR010037

Registration identification number: 20028389

Evidence by David Cumming
Strategic Transport Team Manager

October 2021

## Contents

# Norfolk County Council – Local Impact Report

## A47 / A11 Thickthorn Junction – submitted application

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## 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):

<u>Ancient woodland</u>

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.

<u>Ancient and veteran trees</u>
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 loses. 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 inconsistences 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.

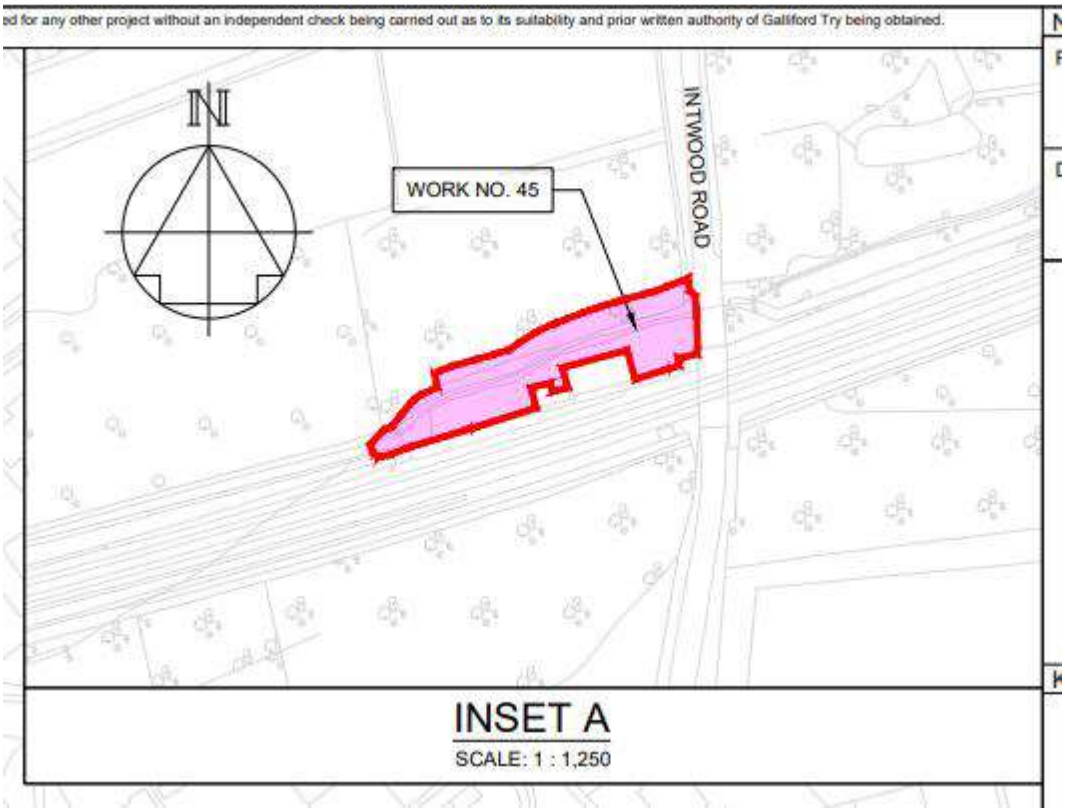
- Table 8-10 (page 42). Great crested newts (GCN). Surveys for GCN had not been completed at the time of submission but should now (May 2021) have been nearly completed. It is recommended that the ES is updated to include the results of the surveys. If surveys have not been completed it is not known 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% f 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.

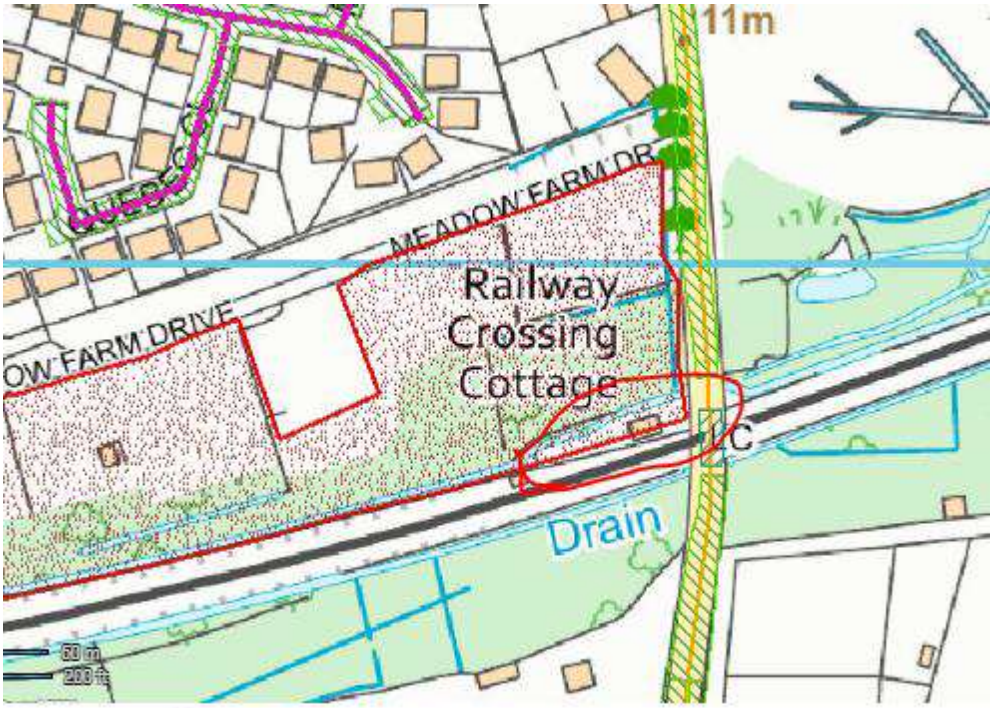
- As alluded to within the bat report, Cantley Lane is an important commuting and foraging corridor for bats. Surveys undertaken in support of 2017/2120 9south Norfolk Council) show that it is of high value to bats (see below). See below: (taken from 2020/0499).

- 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.

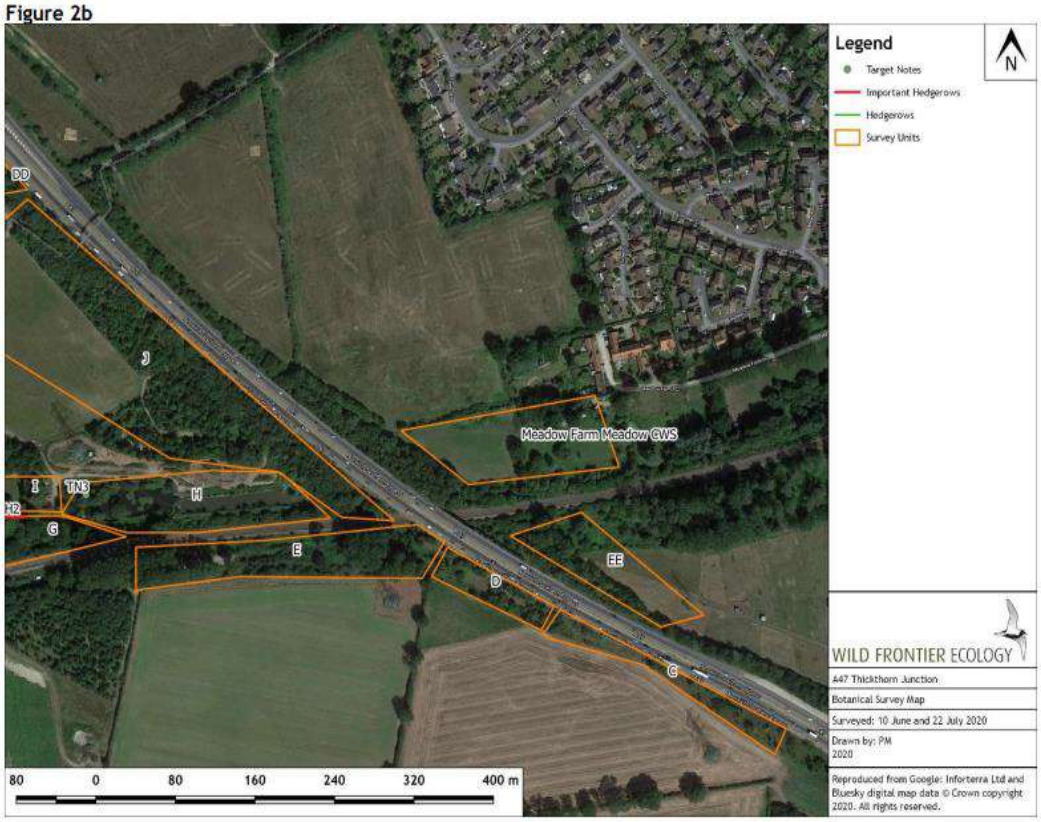


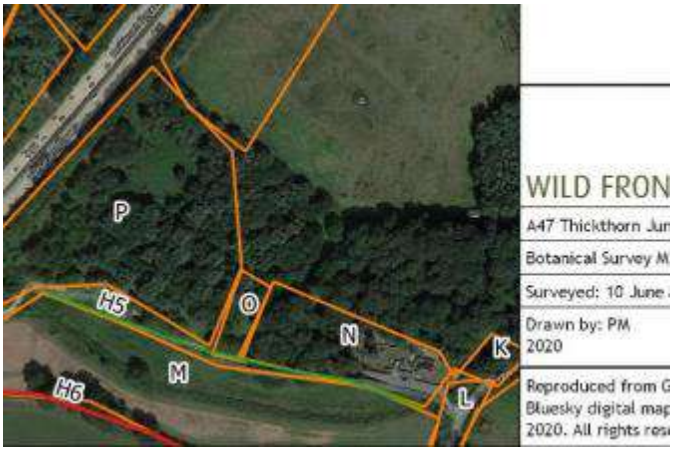

WORK ORDER 45

- 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).
- 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).

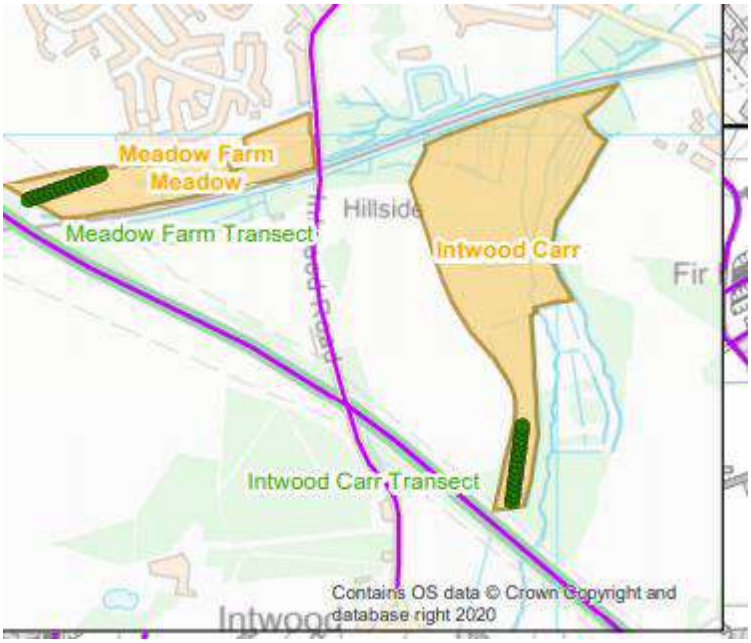
- Para 3.4.8 (below) - It is not clear why reference has been made to Bechstein bats as this species is not present in Norfolk. We (the Natural Environment Team) were consulted in January 2021 with regards to the Long List. During this consultation we queried the use of a 2km CEA ZOI, suggesting the 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 loss. 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 107,500$m^3$ 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 me 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.