
The Norfolk County Council (Norwich Northern Distributor Road (A1067 to A47(T))) Order

Applicant's comment on Written Representations

Planning Act 2008

Infrastructure Planning

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

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Introduction

This document provides the Applicant's responses in respect of issues raised by Interested Parties in their Written Representations to the Examining Authority.

The points have been responded to where possible in the order they were raised. Each issue, or in some cases a summary of it, is shown in italics.

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Applicant's comment on Written Representations

1.1. John Adam (Apex) – Published 03 July 2014

Representation

Who will benefit from the scheme.

Applicant's comment

- 1.1.1. Chapter 3 of Volume 1 of the NDR Environmental Statement (Document Ref 6.1) sets out (in sub sections 3.2 to 3.6) the need for the NDR.
- 1.1.2. In summary, the ES explains that the NDR is needed to improve connectivity and accessibility across both the northern part of the Norwich urban area and areas of the county in an arc from the north west to the east of the main urban area. It further demonstrates that such improvement will ease the relative disadvantage of the peripheral location of these areas and provide the basis of the transport infrastructure required to both address existing and future problems and achieve the growth objectives which have been identified for Norwich and its surrounding area. The need information provided also explains that the specific objectives for the NDR are to:
- reduce traffic levels and congestion on the existing road network both within the urban area and beyond to the north;
 - facilitate journeys that are currently difficult and require traffic to use roads that are unsuitable for the type and volume of traffic that is currently accommodated;
 - provide access to and help to deliver planned and potential areas of growth, and enable those areas to be free of the need to incorporate provision for extraneous traffic;

- provide improved transport connectivity, including with the national strategic road network, for existing and future areas of residential and employment development, Norwich International Airport and the wider area of North and North East Norfolk;
- increase the opportunities for improving provision for public transport and other sustainable forms of transport and for improving traffic management within the city centre, thereby encouraging modal shift, and
- improve traffic related environmental conditions for residents in the northern suburbs of Norwich and outlying villages, whilst minimising the adverse environmental impacts of the NDR.

1.1.3. The key local planning policy relevant to the NDR is contained within the Joint Core Strategy (JCS) for the Greater Norwich area. This recently adopted development plan document – found to be sound and therefore consistent with National policy following independent examinations – makes clear that the NDR scheme is infrastructure which is fundamental to the achievement of the strategy set out in the JCS (see Volume 2.11.2 to 2.11.9 of Volume 1 of the Environmental Statement (Document Ref 6.1)). As paragraphs 3.3.35 to 3.3.46 of Volume 1 of the ES (Document Ref 6.1) explains, the objectives identified in the JCS at the local level benefit from support at the national level.

Representation

<i>NDR will not alleviate traffic problems</i>
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Applicant's comment

- 1.1.4. The Traffic Forecasting Report in Vol 1 Section 7 describes the reductions in traffic in parts of the network with the Scheme in place. In particular traffic would be reduced in the suburban area, including on radial routes and on inappropriate routes that are currently used by orbital traffic movements, described in section 7.1. Section 7.2 shows how the queues would reduce with the Scheme compared with the forecast Do Minimum and section 3 shows the reduced effects on people on the same basis, section 7.4 shows how city centre through traffic will reduce within the inner Ring Road and crossing the Outer Ring Road cordon to levels below existing with the city centre measures in place, substantially so in the first case. Highway journey times between the strategic road network and three proposed development locations are shown to improve substantially in section 7.5, in many cases to levels below the existing journey times. Journey times on public transport radial routes in the peak direction are shown to improve in section 7.6. It is therefore not true to say, based on this evidence, that the NDR will not alleviate travel problems.

Representation

The enormous cost of the NDR would be better invested in a coherent traffic strategy.

Applicant's comment

- 1.1.5. The NDR is part of the overall transport strategy for the Norwich area, the Norwich Area Transport Strategy (NATS) which has been adopted to address current and future transport related problems and issues whilst delivering a package of sustainable transport measures. This is described in detail in the ES (Document Ref. 6.1) which identifies the existing problems and issues and illustrates the conditions on the highway network including traffic flows. Section 3.5 then identifies how the NDR as part of NATS addresses these problems and issues taking account of the planned JCS growth. Sections 3.7 and 3.8 explain how the preferred NATS strategy which includes the NDR was devised. During this process strategies that didn't include an NDR were assessed but were not selected due to their inability to offer solutions to the full range of problems and issues.
- 1.1.6. More recently, prior to the DCO submission to the Planning Inspectorate, the Applicant has reviewed the previous analyses of options in light of new traffic surveys undertaken in 2012, the final results of the environmental studies, feedback from stakeholders and public consultation and the progress of the JCS to adoption. This included an option that only improved public transport without an NDR and an option making improvements to the existing road network instead.

- 1.1.7. The conclusion for public transport initiatives was that they are an essential complement to the NDR and key to the implementation of a sustainable transport policy but, even in combination, they do not constitute an alternative to it. By providing relief to the levels of traffic, the NDR would help to facilitate the introduction of bus priority measures. By freeing the internal road networks of new development areas of the need to cater for extra through traffic, better residential environments can be created, which would be more easily penetrated by local bus services and walking and cycling routes.
- 1.1.8. The conclusion in respect of an alternative that would improve the existing highway network in the urban area was that it would only partly replicate the functions of an NDR and would not resolve many cross city connectivity issues or serve new development. It would unavoidably have a very significant direct and/or indirect physical and environmental impact on many residential and commercial properties, and would require property acquisition and demolition in order to provide the necessary additional highway capacity. It would be likely to face considerable objection, especially from affected occupiers.

Representation

The NDR will spoil the countryside / environment

Applicant's comment

- 1.1.9. The effects on Landscape, Air Quality, Noise, Water and Drainage, Ecology, Agricultural Land, Carbon and the Community are presented within the Environmental Statement (ES) (Document Ref. 6.1). The ES presents the findings of the Environmental Impact Assessment (EIA) and details the effects of the Scheme, both adverse and beneficial.

- 1.1.10. An overall view of the results of the EIA is presented in the Non-Technical Summary (Document 6.3) in which Section 16 provides a Summary of Effects. The detailed analyses and assessments are presented within Volume 1 of the ES (Document 6.1). The technical reports that support these assessments can be found in Volume 2 of the ES (Document 6.2).
- 1.1.11. The proposed Scheme incorporates measures to prevent, reduce and where possible offset environmental impacts from the earliest stage of the project. Specific details of the proposed mitigation measures are included in the individual topic sections of this ES. The proposed measures were designed according to statutory and non-statutory guidance and the DMRB to provide proposals that are proportionate to the significance of the relevant effect. Such mitigation measures are set out or secured through the requirements in the Development Consent Order and NCC is committed to delivering them as an integral part of the proposed Scheme.

Representation

The NDR would create a wide corridor of noise pollution through what is at present, quiet countryside.

Applicant's comment

- 1.1.12. Refer to Para 1.1.9 to 1.1.11 above

1.2. Peter Anderson – Published 3 July 2014

Representation.

The process leading to this application is unfair and unbalanced. I refer to a number of ways by which Norfolk County Council, the Government and district councils in and around Norwich have sought to preclude full public consultation of more comprehensive, large scale development north of Norwich, of which the NDR is an integral part.

Applicant's comment

- 1.2.1. NCC's consultations, as described in Section 3.2 of the Pre-Application Consultation Report (Document Ref. 5.1), undertaken on the NDR sought comment on route options for the NDR between the A47 near Postwick and the A47 to the west of Norwich. These consultations and further consultation work undertaken in 2004 and 2005 helped to inform the decision made by its Cabinet in September 2005 to agree a route for the NDR. This route was between the A47 at Postwick and the A1067 near Attlebridge (i.e. no link between the A1067 and A47) and it has not significantly changed up to the statutory pre-application consultations undertaken in accordance with Planning Act 2008. The statutory pre-application consultation included consultation on the principle of and need for the NDR and on alternative ways of meeting the need and on the route of the NDR (as set out in the Statement of Community Consultation in Appendix J of The Consultation Report Document Ref 5.1).

- 1.2.2. All consultations undertaken since 2005 have shown the route of the NDR as being from the A47 at Postwick to the A1067 near Attlebridge. More recently these have included the statutory pre-application consultations and the consultations also undertaken in April/May/June 2012 and February/March 2013 (as described in 3.3 and 3.4 of the Pre-application Consultation Report (Document Ref 5.1)). During these consultations there was the opportunity to comment on the principle of the NDR, the route as well as on alternative ways of meeting the need.

Representation.

Before the scheme has been examined by the Planning Inspectorate, the proposed NDR has been given the status of National Significance.

Applicant's comment

- 1.2.3. Section 2.7.4 to 2.7.8 of the Pre-application Consultation Report (Document Ref 5.1) outlines NCC's reasoning for its view that the NDR is a development for which Development Consent is required. This includes a chronology of events prior to the application for a DCO being made, which states that in December 2012, the applicant decided to promote the NDR as a Nationally Significant Infrastructure Project (NSIP). At that time the NDR fell within the definition of a NSIP set out in Section 22(2) of the Planning Act 2008 (as it then was) because it included works to the Postwick junction of the A47(T) and was to be constructed for a purpose connected with the A47(T).

- 1.2.4. Publication of the notice stating where and when the SOCC could be inspected took place on 21 June 2013 and on 28 June 2013, with the first publication exhibition held on 8 July 2013. The Section 48 Notices were published on 12 July 2013 and 19 July 2013. The programme of public exhibitions ran until 12 August 2013. Section 42 consultation letters were issued on 30 July 2013 and representations under all three strands of consultation were invited until 20 September 2013. Further information on the consultation is set out in the rest of the Consultation Report.
- 1.2.5. On 24 July 2013 the Highway and Railway (Nationally Significant Infrastructure Project) Order 2013 (S.I. 2013/1883) (the Highways Order) was made and the Order came into force on 25 July 2013. This was some weeks after the start of the statutory consultation process referred to above. The Order amended Section 22 of the Planning Act 2008 so that a project such as the NDR would not (from 25 July 2013 onwards) fall within the definition of a NSIP. The Secretary of State made the Direction on 9 August 2013. The effect of the Direction on the validity of the pre-application consultation is set out at sections 2.7.1 to 2.7.3 and 2.7.10 to 2.7.17 of Document Ref 5.1.
- 1.2.6. On 25 July 2013, the applicant submitted a qualifying request to the Secretary of State for a direction under Section 35(1) of the Planning Act 2008 that the NDR was a project of national significance and so should be treated as development for which development consent was required. On 25 July 2013, the applicant submitted a qualifying request to the Secretary of State for a direction under Section 35(1) of the Planning Act 2008 that the NDR was a project of national significance and so should be treated as development for which development consent was required. The Secretary of State considered that request, and confirmed through his direction dated 9 August 2013 that the NDR Scheme was of national significance and

therefore requires a development consent order. The DCO application must be determined on its merits, against the tests set out in the Planning Act 2008.

Representation.

A start on the proposed NDR. Further evidence of the expectation that the proposed NDR will be approved is the fact that work on the end/beginning of the proposed road has already started, this is being done under a separate application.

Applicant's comment

- 1.2.7. NCC applied separately for the necessary consents to construct the Postwick junction improvements, and following confirmation of the necessary Slip Road Order and Side Road Order early in 2014, began construction of that scheme in May 2014. The applications for the consents required for the Postwick junction scheme were considered on their merits by the relevant bodies, who approved them. Those approvals were given in the knowledge that an application for the NDR may be made, but without knowing the outcome in relation to it.
- 1.2.8. When NCC consulted on and made the DCO application, no decision had been made on the Postwick Orders. So as to ensure that the whole NDR scheme (including Postwick junction) could be delivered, NCC included works at Postwick within the NDR DCO application.
- 1.2.9. The DCO application must be considered on its merits by the Secretary of State (SoS), in accordance with the tests set out in the Planning Act 2008. NCC considers that the case for the NDR DCO application as made is strong, and therefore also considers the case for the DCO being made by the SoS to be strong.

Representation.

Consultation, the slicing up of the NDR project to enable work to start on an unapproved NDR is the result of a determination to push through the development, and the greater scheme for the northern area of Norwich.

Applicant's comment

1.2.10. Refer to para 1.2.7 to 1.2.8 above.

1.2.11. Refer to para 1.2.1 to 1.2.2 above.

Representation.

The public mood, Will democracy be better served by referring the scheme back to the County Council working under its new committee system?

Applicant's comment

1.2.12. The Norwich Area Transport Strategy including the NDR already has a democratic mandate to progress the delivery of the strategy including the NDR scheme through the planning system. Details of key decisions following consultations up to April 2013 are contained in Document 5.1 Consultation Report Appendix B. More recently reports were taken to Cabinet in September and November 2013 and most recently at the Cabinet meeting in April 2014. The new chair and vice chair of the EDT Committee have also set out their full support for the delivery of the NDR.

Representation.

Pollution, the present Norwich southern bypass already brings continuous traffic noise, exhaust and light pollution to parts of Norwich, for example near Trowse . Approval of the NDR application would tighten the circle around a larger part of the city.

Applicant's comment

1.2.13. Refer to Para 1.1.9 to 1.1.11 above.

Representation

Habitat loss, top grade farmland will be lost if the application is approved.

Applicant's comment

1.2.14. The routing of the road was based on factors including the importance of maintaining the coverage of the “best and most versatile” agricultural land to the north of Norwich. This is the land which falls within the land classification categories 1, 2 and 3a according to the Agricultural Land Classification (ALC) of England and Wales. The route was selected to avoid all grade 1 agricultural land, but it was not possible to avoid lands of the lesser “best and most versatile” grades. Therefore, within the scheme footprint (i.e. the DCO boundary) there are 168.30 ha of grade 2 and 114.20 ha of grade 3a agricultural land, and there are no areas of grade 1 agricultural land. As described in the Environmental Statement (Doc Ref 6.2, Chapter 13), 142.3 ha of grade 2 and 99.95 ha of grade 3b agricultural land will be permanently lost to the scheme.

- 1.2.15. This was recognised as a major adverse and significant impact on agricultural land as a national resource, but was considered unavoidable. This assessment should be considered in relation to current farming practices and the benefits arising from a potential increase in biodiversity from intensively farmed land lost to habitat creation.

1.3. John & Gillian Arnott – Dated 30 June 2014

Representation.

We are concerned what the outcome will be if the Planning Inspector turns down the application Those people and organisations against the NDR do not realise the impact lorries have on the roads coming off Cromer Road from North Norfolk and through Fifers Lane and then on the Ring Road ending up along St. Williams Way and the Sainsburys junction.

Applicant's comment

- 1.3.1. The Applicant note this representation which identifies concerns held by some local residents about traffic in the no-NDR scenario.

1.4. Shan Barclay – Dated 25 June 2014

Representation

NDR will not alleviate traffic problems

Applicant's comment

- 1.4.1. Refer to Para 1.1.4 above.

Representation

The costings and projections which underpin it are speculative.

Applicant's comment

- 1.4.2. NCC has completed significant work with the already appointed contractor (Birse Civils Ltd) and has high confidence regarding scheme costs. NCC has agreed the funding arrangements for the difference in funding between the government contribution and the cost of the scheme (Cabinet Report Nov 2013 Item 14 Appendix C sets out that the total cost of the scheme is £148.55m; government grant is £86.5m; growth point funding £1.71m; and that the county council will underwrite £60.34m, with £40m of this committed in principle from the GNDP).
- 1.4.3. The assessment of the economic benefits has followed a recognised methodology.
- 1.4.4. Within Sections 5.4 and 5.5 of the Economic Appraisal Report (Document Ref 5.7) it is explained that the scheme delivers a transport Benefit Cost Ratio (BCR) of 4.17 (inclusive of accident benefits) and a BCR of 5.33 when wider economic impacts and journey time reliability are included. Both of these represent very high value for money (BCR above 4) according to DfT's VfM criteria. This analysis is in accordance with the standard DfT WebTAG methodology.

- 1.4.5. An analysis of the potential land use and development benefits has also been undertaken. The Scheme has the potential to bring over £1bn of investment in employment, housing and transport infrastructure into Norfolk. This investment is forecast to produce £1.1bn of Gross Value Added (GVA) benefits. This is explained and justified in Section 5 of Land Use and Economic Development Report (Document Ref 10.3).

Representation

For a fraction of the cost we could have proper investment in better public transport and cycle routes and improvements to the existing road system which would also yield a higher return in terms of traffic management than the proposed scheme.

Applicant's comment

- 1.4.6. The overall transportation strategy for the Norwich area, NATS, is a package of transport improvements, interventions and measures. Together these improvements, interventions and measures will deliver a reliable, efficient and long-term sustainable transport network which will improve accessibility and connectivity and which will support the continued economic and physical growth of the Norwich area.
- 1.4.7. The NDR is an integral part of NATS and is required to address existing problems and issues which include an Outer Ring Road operating at near capacity or overcapacity around the northern part of the city.

- 1.4.8. Whilst some bus related improvements have been progressed through the NATS, improvements to the public transport corridors to the north and east of the City have been constrained by the amount of traffic and related congestion on key radial routes and the ring road routes. With the reduction in traffic flows and congestion on these routes forecast to result from the NDR, further improvements in these areas can be made and benefits realised.
- 1.4.9. Chapter 3, the Needs and Alternatives section of the Environmental Statement (Document Ref. 6.1) describes the work carried out in devising NATS. This work determined that the preferred option for NATS included an NDR.

Representation

The environmental cost of this new road system will be very high generating more pollution and destruction of valuable land and habitat which will be irreplaceable.

Applicant's comment

- 1.4.10. Refer to Para 1.1.9 to 1.1.11 above.

1.5. Dr. Jeremy Bartlett – Published 3 July 2014

Representation

The NDR will increase car usage - radial roads leading to the new road from the city centre, will become busier. The NDR will also lead to an increase in rat-running in Taverham, Drayton and outlying villages to the west of Norwich as drivers travel from the A47 to the A1067.

Applicant's comment

- 1.5.1. Refer to Para 1.1.4 above.
- 1.5.2. Vol 1 Section 7 Paragraph 7.1.8 to 7.1.14 of the Traffic Forecasting Report (Document Ref. 5.6) analyses the traffic impacts at the western end of the NDR in the vicinity of Taverham and Drayton and especially the impact on traffic crossing the Wensum Valley.
- 1.5.3. This shows that the NDR leads to a decrease in daily traffic on the routes that connect the A1067 with the A47(T) to the west of Norwich of 6% in 2017 and 4% in 2032 as shown in Table 7.1, although there is an increase in traffic on the western part of the corridor (between Lenwade / Weston Longville and Hockering) which has, separately to the NDR project, already received highway and traffic management improvements. (Further details on this have been provided in response to ExA first Written Questions 10.10.)
- 1.5.4. In Figure I.3 in Vol3 of the Traffic Forecasting Report site A54 shows there would be a forecast reduction with the NDR on the A1067 Fakenham Road.

Representation

The NDR will allow more business parks and out of town superstores to be built. NCC claims the NDR would create thousands of jobs, yet evidence from the last 29 years shows that out of town developments largely take jobs from the city centre to the outskirts, rather than create long term jobs. This is a trend that has been repeated nationally, as weak planning laws have favoured out of town developments, in particular large retail stores and business parks.

Applicant's comment

- 1.5.5. While there may have been some redistribution of jobs around the urban area the total supply of jobs has grown. The amount and general location of new development for the Greater Norwich area are detailed in the adopted JCS, the key adopted element of the development plan for Norwich and its surrounding area. This has been found to be sound following independent examinations of that strategy; most recently in 2013. Proposals for further out-of-town retail and business development will be subject to normal development management and local planning processes. The National Planning Policy Framework provides the overall policy context and requires a sequential approach to “town centre” uses.

- 1.5.6. Norwich is a dominant regional city located within a largely rural county. As explained in Chapters 2 and 3 of Volume 1 of the ES (Document Ref 6.1) a number of objectives which centre on substantial population growth and economic development have been identified for the City of Norwich and its surrounding area. As explained in paragraphs 3.3.20 to 3.3.34 of Volume 1 of the ES (Document Reference 6.1), at the local level these objectives have been largely identified within the adopted JCS. As paragraphs 3.3.35 to 3.3.46 of Volume 1 of the ES further explain, these objectives benefit from support at the national level.

- 1.5.7. The purpose of the Land Use and Economic Development Report (Document Ref 10.3) is to provide an explanation of the relationship between the proposed NDR and sites earmarked for development and to assess the economic development impact of the NDR in terms of jobs and dwellings which are assessed on a site-by-site basis with respect to the influence of the NDR on bringing development forward. The report quantifies the economic benefits of the development sites located on or close to the line of the NDR and provides a qualitative assessment of wider economic effects, including within Norwich City Centre and at Great Yarmouth and the market towns of Aylsham and North Walsham. Positive (but unquantified) effects are identified for these areas in Table 5.2 of the report.

Representation

Access to areas north and east of Norwich for walkers and cyclists The NDR would restrict this access, as the plans include the closure of several important routes for cyclists out of the city to the countryside and villages of north and east Norfolk.

Applicant's comment

- 1.5.8. In the majority of instances where a public right of way has been severed an alternative diverted route has been provided. For example alternatives have been provided where the NDR severs the following routes, as shown on the General Arrangement (GA) Plans (Document Ref. 2.6):

- Attlebridge Restricted Byway No 3 (GA Plan Sheet 1 of 12)
- Drayton Restricted Byway No 6 (GA Plan Sheet 3 of 12)
- Horsford Restricted Byway No 7 (GA Plan Sheet 4 of 12)
- Postwick Footpath No 2 (GA Plan Sheet 12 of 12).

- 1.5.9. There are two public rights of way, as detailed below, that are substantially removed by the proposals but similarly new alternative bridleways have been provided in their place:
- Spixworth Bridleway No 1 (GA Plan Sheet 7 of 12),
 - Gt/ Lt Plumstead Footpath No 5 (GA Plan Sheet 11 of 12).
- 1.5.10. In addition where the NDR would sever Marriott's Way and Horsford Restricted Byway No 5, bridges over the NDR have been provided to ensure continued connectivity.
- 1.5.11. Volume 1, Chapter 13 of The ES (Document Ref. 6.1), overall, the assessment presented within this ES concludes that once the Scheme is operational, there would be a Moderate Beneficial and therefore significant impact for All Travellers. This is as a result of reduced traffic and congestion on radial routes in the suburban area and on inappropriate routes that are currently used by orbital traffic movements, improved amenity for Non Motorised Users (NMUs) and relief from existing severance within and between communities and facilities caused by existing high traffic levels.

Representation

NCC traffic flow map may not be entirely accurate. It contains numerous examples of roads with increased traffic flow leading to, or surrounded by, roads with decreased traffic flow, which doesn't make sense. Is the map fit for purpose?

Applicant's comment

- 1.5.12. As stated in section 1.1.5 of the Traffic Forecasting Report (TFR) (document 5.6), the traffic forecasting has been undertaken in accordance with the Department for Transport's (DfT's) Web-based Transport Appraisal Guidance WebTAG. This is DfT's standard methodology for carrying out traffic forecasts for major transport schemes. The Applicant considers that the forecasts of traffic flows are generally sensible.
- 1.5.13. The increases or reductions are due to the effect of the NDR on changing the traffic pattern as some journeys reassign on the network to use new infrastructure. The maps in Volume 3 Figures I.1 to I.5 of the TFR show these impacts in terms of traffic volumes and there is an associated text in section 7.1 of Volume 1.

Representation

The NDR is contrary to many of the NPPF Core Planning Principles, building the NDR is entirely contrary to at least five of the twelve Core Planning Principles of the National Planning Policy Framework.

Applicant's comment

- 1.5.14. It is not unusual for a development to have varying degrees of compliance with wide ranging planning policies. Nevertheless the NDR is considered to have a high degree of compliance with the core principles of the NPPF. (Further details on this have been provided in response to ExA first Written Questions 12.2.)

Representation

The NDR would cause extensive environmental damage, including large scale destruction of countryside, farmland and wildlife habitats. Noise, light and air pollution will increase.

Applicant's comment

1.5.15. Refer to Para 1.1.9 to 1.1.11 above.

Representation.

Although NCC claims that 5.5 trees will be planted for every one felled, planting 5.5 small saplings does not compensate for the loss a single mature tree that will be felled, such as the lovely mature oaks on Quaker Lane or trees at Ortolan's Grove with their associated ecosystem of birds, bats and invertebrates.

Applicant's comment

1.5.16. The route has been selected to reduce the tree loss as much as possible. We are currently reviewing the lagoon design at Ortolan's Grove to determine if the mature trees can be preserved.

Representation.

The bridges and gantries are described in the Local Impact Report as “highly innovative” and “of a novel design”, which does not instil any confidence that these are tried and tested measures .Furthermore, even if bats can cross the NDR safely, they need to feed in edge habitats with an abundance of insects, something that the bricks and mortar of a housing estate or business park will not be able to provide.

Applicant’s comment

- 1.5.17. The design for the bat gantries has been undertaken with the advice from a national expert. In order to manage and maintain habitat links to the mitigation measures for bats (gantries, bridges and culvert), NCC is providing a fund over three years to encourage landowners to preserve and enhance the newly created habitats The sum is managed by the Connecting Nature Fund: Wild Anglia, a recognised Local Nature Partnership and the first payment has been made into this fund.

Representation.

Detailed Invertebrates surveys in the area do not appear to have been carried out. The scrubby hedges near Thorpe End are currently a good habitat for Dark Bush Crickets which would be more or less wiped out. No one knows what other species will be lost as well.

Applicant’s comment

- 1.5.18. Terrestrial invertebrate surveys took place in 2007, and were updated in 2010. In 2012, as part of the Phase 1 Habitat Survey, assessments of terrestrial invertebrates were carried out by focusing on assessing the value of the habitats along the route of the NDR. This was carried out with a view to assessing the likely impacts and informing appropriate compensation measures, including habitat creation. The focus was to consider the wider importance of the landscape for

terrestrial invertebrates, and not individual species. The results of these surveys can be found in Volume 1 Chapter 8 of the Environmental Statement (Doc Ref 6.1)

Representation.

80% of residents and community groups who gave their opinion during last summer's consultation were opposed to the scheme. It is undemocratic for Norfolk County Council to continue with the scheme, given this level of unpopularity.

Applicant's comment

- 1.5.19. The volume of respondents objecting to scheme is considered small when compared to the overall number of people consulted. It is approximately 2% of the 57,000 residential and business addresses sent consultation letters. The proportion of respondents opposed to the scheme is considered a reflection of the area of consultation – i.e. that the consultation focused on the areas most directly affected rather than areas further afield, which are likely to benefit from the NDR and future NATS measures that depend on the NDR. NCC's analysis of the Section 47 and 48 consultation responses is contained in Chapter 5 of the Pre-application Consultation Report (Document Ref 5.1), with the key issues identified highlighted in Section 5.4 and is considered not to be a misrepresentation of the consultation responses.

Representation.

Savage cuts are already being made to council budgets for public transport and essential services for the needy, yet Norfolk County Council and national Government have somehow managed to divert taxpayers' money to the NDR project.

Applicant's comment

- 1.5.20. Reflecting the very high VFM and value to the local economy funding for the NDR project has been agreed by NCC's Cabinet in November 2013. This includes details of the funding sources and the value underwritten by the County Council, which is supported by an in principle agreement that up to £40m Community Infrastructure Levy (CIL) income can be used towards the project.
- 1.5.21. This reflects the importance of the NDR as essential highway infrastructure supporting growth in employment and housing as set out in the adopted Joint Core Strategy (JCS), as well as providing much needed benefits in transport terms by resolving existing traffic problems and providing direct access from the strategic road network to Norwich International Airport.

Representation.

Alternatives to the NDR would be a lot cheaper, such as a series of inner orbital link roads between Postwick and Hurricane Way at Norwich Airport (funded by developers) and traffic calming measures for the north of the city

Applicant's comment

- 1.5.22. Chapter 3 of Volume 1 of the ES (Document Ref 6.1) explains the consideration given to potential alternatives. Section 3.15 discusses Alternative 5 which comprises developer link roads between radials (within the growth areas).

- 1.5.23. Further analysis using the DCO transport model for alternatives is provided in The Traffic and Economic Appraisal of NDR Alternatives (Document Ref 5.12). Section 8 of the report provides an analysis for Alternative 5 and conclusions are summarised in Section 9.
- 1.5.24. Alternative 5 (developer link roads) fails to reduce traffic on inappropriate routes and relieve the existing network. Whilst the Alternative includes the city centre traffic management measures the reductions of cross city centre traffic are much smaller compared with the DCO Scheme, especially for trips crossing the Outer Ring Road Cordon. The junction analyses show that North Walsham Road and Wroxham Road junctions would operate substantially over their theoretical capacity with long queues and delays, with delays of over 10 minutes at North Walsham Road Junction in the 2032 AM peak, and 5 minutes in the 2032 PM peak. On these grounds the developer link roads would not operate satisfactorily and they would cause particularly severe difficulties in implementing the proposed shared use high street-type design envisaged in the development proposals.

1.6. Mrs Jane Bouttell – Dated 15 June 2014

Representation

NDR will not relieve congestion.

Applicant's comment

1.6.1. Refer to Para 1.1.4 above.

Representation

Economic development in Norwich is mostly planned for the Norwich Research Park, which is located on the opposite side of the city to the NDR.

Applicant's comment

1.6.2. The JCS has identified a need for employment growth which will attract investment. The New Anglia Strategic Economic Plan (SEP) considers that *“The Norwich Northern Distributor Road is fundamental to the delivery of the overall scale of growth, the remainder of the transport package that supports growth, and key elements of the City Deal”* (paragraph 6.12) The SEP makes numerous references to the significance of the Norwich area economy. Specific references include recognition of the civil aviation cluster at the airport (at paragraph 2.5) Paragraphs 6.20 and 6.21 specifically refer to the northeast quadrant of Norwich including the airport and surrounding development opportunities, Rackheath and Broadland Business Park.

1.7. Aaron Brown – Dated 30 June 2014

Representation

The effect of the NDR on noise and air pollution as well as human health

Applicant's comment

- 1.7.1. Refer to Para 1.1.9 to 1.1.11 above
- 1.7.2. With regards to human health, Chapter 12 of the ES (Document Ref 6.1) concludes that the Scheme would have Moderate Beneficial and therefore significant effect for All Travellers. This is as a result of reduced traffic and congestion on the majority of radial routes, improved amenity for Non-Motorised Users and relief from existing severance within and between communities caused by existing high traffic levels thus providing better facilities for walking and cycling.

Representation

Public consultation in summer 2013 showed that 80% of respondents who expressed an opinion were opposed to the NDR.

Applicant's comment

- 1.7.3. Refer to Para 1.5.19 above.

Representation

The loss of these three submissions, which collectively represent the views of thousands of people, means that the Council has not taken into account the level of public opposition to the NDR. It also brings into question the validity of their consultation process.

Applicant's comment

- 1.7.4. NCC received over 1400 responses to its consultations under Section 47 of the Planning Act, which commented on a wide range of issues associated with the NDR proposals. NCC is aware that three submissions made by Norwich Green Party, CPRE and SNUB were on the balance of probabilities received but unfortunately were not logged. In respect of these submissions, the Planning Inspectorate has concluded that the points raised in them had been raised by other consultees and therefore are covered in the Consultation Report. A legal point raised about the changes to the legislation during the consultation process was addressed in any event in the Consultation Report (as referred to in section 1.2.6 above) In addition there will be further opportunity for these comments to be considered during the examination process. The County Council's Head of Procurement carried out an extremely thorough investigation, and although he was unable to arrive at a definitive view as to what happened, NCC have apologised to the Green Party, SNUB and CPRE. The full report has now been published (Review into missing submissions to Norwich Northern Distributor Road consultation process - included within Appendix A of NCC/EX/4 Applicants Comments on Relevant Representations) No other individuals or groups have come forward suggesting that their submissions have not been included within the consultation report.

- 1.7.5. NCC's consultations undertaken on the NDR sought comments on route options for the NDR between the A47 near Postwick and the A47 to the west of Norwich. These consultations and further consultation work undertaken in 2004 and 2005 helped to inform the decision made by its Cabinet in September 2005 to agree an adopted route for the NDR. This route was between the A47 at Postwick and the A1067 near Attlebridge (i.e. no link between the A1067 and A47) and it has not significantly changed up to the statutory pre-application consultations undertaken in accordance with Planning Act 2008.
- 1.7.6. All subsequent consultations undertaken have shown the route of the NDR as being from the A47 at Postwick and the A1067 near Attlebridge. More recently these have included the statutory pre-application consultations and the consultations also undertaken in April/May/June 2012 and February/March 2013 (as described in 3.3 and 3.4 of the Pre-application Consultation Report (Document Ref 5.1)). During these consultations there was the opportunity to comment on the route.

Representation

Air pollution, exposure concentrations appear to be two to three times as high near busy roads as at background measurement sites. Noise pollution, there is also the serious issue of noise pollution which will also increase. Fragmentation and loss of habitat, the most serious environmental impact will be the fragmentation of habitats and ribbon development along the route of the NDR.

Applicant's comment

1.7.7. Refer to Para 1.1.9 to 1.1.11 above.

1.7.8. Volume 1 Chapter 8 of the Environmental Statement (Document Ref 6.1) states *“Core to the compensation measures for the NDR will be the connectivity of the habitats, to allow for the movement of species across the NDR corridor. This is especially important when taking into consideration both the potential climate change effects on biodiversity within the region and the existing fragmentation of habitats to the north of Norwich. Preference will be given to establishing green corridors”*.

Representation

The NDR will increase traffic level, Yet again we are told that the NDR will in general reduce traffic levels within the northern suburbs despite that fact that new roads only ever increase vehicle use.

Applicant's comment

1.7.9. Refer to Para 1.1.4 above.

Representation

Need for housing, another argument for the NDR is that we need more houses due to lack of supply.

Applicant's comment

- 1.7.10. The economic development impact of NDR is set out in Document Ref. 10.3. The economic impact assessment of the proposed NDR is provided within the context of the JCS stated growth targets which are in place to guide the future of the Greater Norwich economy. The NDR is a key strategic piece of infrastructure and will play a key role in supporting the delivery of growth in housing and jobs over the next two decades.
- 1.7.11. The amount of development and the general location of development for the Greater Norwich area are detailed in the adopted JCS, the key adopted element of the development plan for Norwich and its surrounding area. This has been found to be sound following independent examinations of that strategy; most recently in 2013. As explained in paragraphs 2.11.2 to 2.11.9 of Volume 1 of the ES (Document Ref 6.1) the NDR scheme is identified as infrastructure which is fundamental to the achievement of the strategy in the JCS.
- 1.7.12. The level of employment provision in the JCS is required to meet the objectively assessed need to support economic, household and population growth. This has been determined by the local plan process which is the appropriate mechanism.

- 1.7.13. The JCS is the adopted strategy for the area and sets out the broad distribution type and scale of growth. It emphasises the need for the NDR as Priority 1 infrastructure as well as providing the spatial strategy for the area encompassing the city centre, the rest of the urban area and surrounding areas including market towns in Broadland and South Norfolk. The views of surrounding areas such as North Norfolk and Great Yarmouth were taken into account through the consultation process and more recently through the duty to co-operate. The JCS is evidenced based and subject to sustainability appraisal which includes economic considerations.
- 1.7.14. Norwich is a dominant regional city located within a largely rural county. As explained in Chapters 2 and 3 of Volume 1 of the ES (Document Ref 6.1) a number of objectives which centre on substantial population growth and economic development have been identified for the City of Norwich and its surrounding area. As explained in paragraphs 3.3.20 to 3.3.34 of Volume 1 of the ES (Document Reference 6.1), at the local level these objectives have been largely identified within the adopted JCS. As paragraphs 3.3.35 to 3.3.46 of Volume 1 of the ES further explain, these objectives benefit from support at the national level.
- 1.7.15. The purpose of the Land Use and Economic Development Report (Document Ref 10.3) is to provide an explanation of the relationship between the proposed NDR and sites earmarked for development and to assess the economic development impact of the NDR in terms of jobs and dwellings which are assessed on a site-by-site basis with respect to the influence of the NDR on bringing development forward. The report quantifies the economic benefits of the development sites located on or close to the line of the NDR and provides a qualitative assessment of wider economic effects, including within Norwich City Centre and at Great Yarmouth and the market towns of Aylsham and

North Walsham. Positive (but unquantified) effects are identified for these areas in Table 5.2 of the report.

Representation

The push for the NDR complete route, if the NDR is built, inevitably lobbying will begin for it to link to the A47 to the west and cross the Wensum Valley.

Applicant's comment

1.7.16. A road linking the A1067 and the A47(w) would have to cross the Wensum Valley, which is designated a Special Area of Conservation (SAC) under the European Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora - often referred to as the Habitats Directive. An assessment of options across the Wensum Valley concluded, in 2005, that significant impacts on the SAC would be likely, and there was doubt as to whether, under the terms of the Habitats Directive, it would be possible to design an acceptable scheme. This in turn raised the prospect that consent for a wider scheme including such a link might not be granted. On 19 September 2005, the applicant's Cabinet resolved to have no NDR link between the A47(w) and the A1067. It therefore did not form part of the adopted route. At its meeting of 16 September 2013 the meeting of the Norfolk County Council resolved to recommend to Cabinet that they submit an application for a DCO in respect of the NDR as proposed (i.e. between the A47 at Postwick and the A1067 near Attlebridge) and to also commission a report on a feasibility study of providing a link across the Wensum Valley from the A1067 to the A47(w).

- 1.7.17. Whilst at its meeting of 7 October 2013 the applicant's Cabinet resolved that a "scoping report on the feasibility of providing a link across the Wensum Valley from the A1067 – A47 be written once consultation work was completed", this study has not been carried out and there is therefore currently no proposal establishing the form any link between the A1067 and A47(w) would take, or indeed whether any such link is feasible. The Transport Assessment for the NDR (Document Ref 5.5.) shows that the NDR provides substantial benefits without a further link between the A1067 and A47(w) and that the NDR will reduce daily traffic on existing routes between the A1067 and the A47(w) between Drayton/Taverham and Costessey. The NDR is therefore in no way dependent on the provision of such a link. The feasibility and environmental acceptability of a link to the A47(w) have not been established and the previous assessment in 2005 discarded this option. Accordingly, it is the position of the Applicant that the NDR can and should be considered on its own merits without such a link.

Representation

Future car use, road building is certainly not the answer and is utterly unsustainable and such a short term deluded approach.

Applicant's comment

- 1.7.18. The NDR forms a key part of the Norwich Area Transportation Strategy NATS and the NATS Implementation Plan (NATSIP), which was updated in November 2013 (Cabinet Report 4 Nov 2013) Appendix D. NATSIP sets out the relationship between the NDR and NATS and identifies those elements of NATSIP that cannot be delivered without the NDR. The NDR therefore allows the full range of NATSIP measures to be delivered. NATSIP has been developed to deliver the required step-change in transport provision to realise the full potential of, and cater for, the transport needs of a vibrant and growing regional centre including Bus Rapid Transit (BRT) Cycle Network and Public Realm Improvements. The NDR, with its associated NATS measures underpins the opportunity to deliver a high quality living environment in sustainable developments based around walking, cycling and public transport.

1.8. Victor Brown – Dated 16 June 2014

Representation

In summary, objection to the proposal to build a bridge over the proposed NDR at Middle Road, Great Plumstead as this will allow rat-run traffic to continue passing through Great Plumstead and deny the residents of Great Plumstead any benefit from the proposed NDR.

Applicant's comment

- 1.8.1. During consultations undertaken in April/ May/ June 2012 the scheme proposals included closures of Smee Lane and Middle Road where they meet the NDR, and a Non-Motorised User (NMU) and agricultural vehicle bridge over the Norwich Northern Distributer Road (NDR) at Low Road.
- 1.8.2. As a result of the consultations, which highlighted concerns that the scheme reduced the number of access options to Great Plumstead, the proposals were amended to provide closures to Smee Lane and Low Road, with an all user bridge being provided over the NDR at Middle Road. Middle Road was identified as the most appropriate road out of these three roads for an all user bridge because it was a better standard than Low Road or Smee Lane.
- 1.8.3. The revised proposals were presented during the February/ March 2013 consultations and the statutory pre-application consultation undertaken in accordance with the Planning Act 2008. Norfolk County Council (NCC) has given regard to the responses received during both of these consultations and acknowledges the concerns of residents of Middle Road. However, it also must consider the wider highway network (including the alternative routes to Middle Road) and after considering all of these points proceeded with the Middle Road Bridge as part of the proposal.

1.9. Dr & Mrs Bulmer – Dated 23 June 2014

Representation

A 'three-quarters' ring road that in effect 'stops' on the Fakenham Road is totally pointless and that it will turn parts of our village into a rat run, as well as having a negative impact on the environment.

Applicant's comment

- 1.9.1. There are notable transport benefits in delivering the NDR scheme to the A1067.
- 1.9.2. The report on Traffic and Economic Appraisal of NDR Alternatives (TEAA) (Document Ref 5.12) includes the results of appraisal of Alternative 2, which comprises a dual carriageway between the A140 and the A47(E) at Postwick – i.e. the Scheme but without the section between the A140 and the A1067. The results, including effects on traffic flows, junctions, safety, and economics, are presented in Section 6 (Doc Ref 6.2 Environmental Statement chapter 3).
- 1.9.3. Alternative 2 would not provide any relief to roads and communities to the west of the A140, and in some cases there would be increases (section 6.1).
- 1.9.4. Table 6.6 in section 6.4 shows that the Present Value of Benefits for Alternative 2 of some £550m are significantly less than that for the DCO Scheme, of some £989m. Alternative 2 has a lower cost than the DCO Scheme, and the resulting Benefit Cost Ratio is 4.114 compared to 5.331 for the DCO Scheme. This indicates that, in economic terms, the additional cost of the section between the A140 and the A1067 is forecast to be outweighed by the benefits it produces.

- 1.9.5. Vol 1 Section 7 Paragraph 7.1.8 to 7.1.14 of the Traffic Forecasting Report (Document Ref. 5.6) analyses the traffic impacts at the western end of the NDR in the vicinity of Taverham and Drayton and especially the impact on traffic crossing the Wensum Valley.
- 1.9.6. This shows that the NDR leads to a decrease in daily traffic on the routes that connect the A1067 with the A47(T) to the west of Norwich of 6% in 2017 and 4% in 2032 as shown in Table 7.1. Improvements and traffic management will be in place where there is a predicted increase in traffic on the western part of the corridor (between Lenwade / Weston Longville and Hockering).
- 1.9.7. In Figure I.3 in Vol3 of the Traffic Forecasting Report site A54 shows there would be a forecast reduction with the NDR on the A1067 Fakenham Road.
- 1.9.8. These model outputs do not support the assertion that the Scheme would 'dump' traffic on communities in Taverham and Drayton. It is considered that the NDR Scheme as it stands is unlikely to result in significant adverse environmental impacts on the Wensum SAC. This is detailed within the Habitats Regulations Assessment and in the subsequent Addendum. This has been undertaken in consultation with Natural England and the Environment Agency who have the responsibility for the protection of the Wensum SAC. This can be found in Document 6.2 Environmental Statement: Volume 2: Chapter 17. Habitats Regulations Assessment, addendum is still in draft form and is being reviewed by NE and the EA and this will be made public as soon as the Statutory Bodies have finished the review of the data submitted. It was anticipated this document would be finalised mid July 2014 however it is now expected early August.

It is a total waste of public money

Applicant's comment

- 1.9.9. Sections 5.4 and 5.5 of the Economic Appraisal Report (Document Ref 5.7) provides a detailed economic analysis of the transport benefits and the value for money (VfM) using DfT's criteria.
- 1.9.10. The scheme delivers a Benefit to Cost Ratio (BCR) of 4.17 inclusive of accident benefits and a BCR of 5.33 when wider economic benefits and journey time reliability are included. Both of these figures represent very high value for money (BCR above 4) according to DfT's VfM criteria.
- 1.9.11. In addition to the transport benefits the Scheme would bring substantial land use and economic development benefits that are set out in Document Ref. 10.3. These benefits include:
- 4,358 net additional direct jobs arising from the development sites listed in this report;
 - When multiplier effects are included the figure (of 4,358) rises to 5,230 net additional jobs that would not otherwise arise in Greater Norwich;
 - £1.099bn of additional GVA is forecast to be generated by those 5,230 jobs over some 30 years;
 - £966m of net additional physical investment in roads, infrastructure and housing; and
 - An average of 426 construction jobs (rising to 511 when multiplier effects are included) in each of the years until development is complete (estimated at 2034).
- 1.9.12. Refer to Para 1.5.20 to 1.5.21 above.

1.10. Frances Ann Bushnell (Mrs). – Published 03 July 2014

Representation

I believe the best way to make Hall Lane safer for all residents would be to keep Drayton Lane South open and put a roundabout at the junction of Reepham Road/Drayton Lane; also either closing Hall Lane north or putting in proper speed calming measures. Traffic using Hall Lane to access Drayton, Taverham , Costessey, etc., already travels at speeds in great excess of the 40 m.p.h. limit, and this will probably only get worse.

Applicant's comment

- 1.10.1. An amendment to the DCO Scheme has been promoted to address this issue by keeping Drayton Lane South open. Refer to the report Proposed Minor Change to the Application for Development Consent: Drayton Lane (south) (Document Ref. 5.13). The Planning Inspectorate in the Rule 9 letter dated 16 July 2014 has stated that the revised proposal can be considered as part of the existing application.
- 1.10.2. NCC would not wish to progress a roundabout at Reepham Road/Drayton Lane because of the forecast increase in traffic flows on School Road through the centre of Drayton.
- 1.10.3. The Scheme now includes both Drayton Lane and Hall Lane open which retains the current road layout. This is considered to be a reasonable compromise with only a slight increase in traffic on School Road through the centre of Drayton compared to the originally submitted scheme. Refer to Figure 6.4 in Appendix E of the report Proposed Minor Change to the Application for Development Consent: Drayton Lane (south) (Document Ref. 5.13).

- 1.10.4. The Scheme would improve safety at the Reepham Road/Hall Lane junction with a simplified three arm priority junction. In addition there would be less right turning traffic from Reepham Road compared to the originally submitted NDR scheme.
- 1.10.5. NCC is proposing to implement traffic calming measures on Hall Lane and to introduce a speed limit on Drayton Lane (south). These measures are not part of the NDR scheme and are proposed to be implemented irrespective of whether the NDR goes ahead. They are currently planned to address existing local concerns about traffic flows, HGV use, speed, safety and accidents in this location.
- 1.10.6. The applicant has agreed a joint SOCG which Frances Ann Bushnell is a joint signatory representing residents of Drayton Hall Park refer to NCC/EX/6

1.11. Roger Carter – Dated 29 June 2014

Representation

I firmly believe that road-building leads to increases in traffic, congestion and vehicle-use. This has been borne out by many studies of the consequences of road-building both in the UK and the world.

Applicant's comment

- 1.11.1. Refer to Para 1.1.4 above.

Representation

With the proposed economic and industrial developments around Norwich, such as the one at Rackheath, it is clear that "the NDR may exacerbate the hollowing-out of Norwich's business base, displacing more businesses and reducing employment even further in the city centre.

Applicant's comment

1.11.2. Refer to Para 1.5.5 to 1.5.7 above.

Representation

As an ecologist and an environmentalist I have objections to the scheme. There is no doubt that there will be contamination of Natura 2000 sites and SSSIs from run-off as a result of building the road as well as noise and disturbance and a reduction in air quality.

Applicant's comment

1.11.3. Refer to Para 1.1.9 to 1.1.11 above.

1.12. Norman Castleton – Dated 22 June 2014

Representation

The Road is unnecessary to ease congestion.

Applicant's comment

1.12.1. Refer to Para 1.1.1 to 1.1.4 above.

Representation

Building more roads leads in time to more and more traffic congestion.

Applicant's comment

1.12.2. Refer to Para 1.1.4 above.

Representation

The building of the NDR will aid the development of housing estates and business estates on huge areas of green field land.

Applicant's comment

1.12.3. Refer to Para 1.7.10 to 1.7.15 above.

Representation

Building the NDR will have an adverse environmental impact

Applicant's comment

1.12.4. Refer to Para 1.1.9 to 1.1.11 above.

Representation

The NDR will inhibit the ability to produce food.

Applicant's comment

1.12.5. Refer to Para 1.2.14 to 1.2.15 above.

Representation

The construction of the NDR and the housing and business development that will inevitably follow will increase the demand on already overstretched services e.g. health and social services.

Applicant's comment

- 1.12.6. The amount of development and the general location of development for the Greater Norwich area are detailed in the adopted JCS, the key adopted element of the development plan for Norwich and its surrounding area. This has been found to be sound following independent examinations of that strategy; most recently in 2013. The implications for health and social infrastructure and services are part of the development and consideration of the JCS, and will be considered in relation to each planning application made for development.

1.13. Sophie Chollet – Dated 30 June 2014

Representation

So far no full and comprehensive cost-benefit analysis has been published and submitted to the public committee. Stages of the project, including administrative aspects, as well as long term impacts of the NDR have been omitted. Beyond the immediate costs, short and long-term, are the indirect costs. These include the carbon emissions associated with construction and additional vehicle use. Indirect costs include the loss of countryside, including farmland and amenity land. This leads to a loss of ecosystems services, which is still due to be estimated. Indirect costs include the blighting of thousands of residents lives, the devaluation of hundreds of properties due to noise and air pollution. A rigorous cost-benefit analysis should begin by showing that there is simply no alternative. Such a document does not exist.

Applicant's comment

- 1.13.1. The economic assessment of the Scheme has been carried out in accordance with the Department for Transport's Transport Analysis Guidance, and is detailed in the Economic Appraisal Report (document 5.7). Environmental effects of the Scheme are assessed and reported in the Environmental Statement (Document 6.1).
- 1.13.2. Alternatives to NDR were examined in Traffic and Economic Appraisal of NDR Alternatives (Document Ref 5.12). In addition Summary Results of Sensitivity Tests (Document Ref 5.11) contains number of sensitivity tests to further examine the robustness or sensitivity of the results.

Representation

The aim of the NDR is not explicitly justified. If there is any concern with road traffic, then Norfolk County Council should be working on improving public transport and encouraging cycling by developing cycling lanes.

Applicant's comment

- 1.13.3. Refer to Para 1.1.1 to 1.1.3 above.
- 1.13.4. Approximately 25 kilometres of new links suitable for use by pedestrians, cyclists and equestrians where permitted would be provided alongside, over, and connecting with, in places, the NDR route, together with improved surfacing provided on some existing rights of way. The scheme includes seven grade separated crossings of the NDR and two grade separated crossings of the A47. Various NMU at grade crossings of NDR and side roads are also proposed. The NMU proposals are shown on the General Arrangement Plans (Document Ref. 2.6).
- 1.13.5. A key element in this NMU strategy was the Norwich Cycle Network. The Norwich Cycle Network was launched in 2012, with the aim of encouraging more cycling. It features 7 main routes called pedalways linking with a number of local neighbourhood routes. These provide a network of cycle routes connecting the main urban area of Norwich. The Norwich Cycle Network was developed as part of the Norwich Area Transportation Strategy through extensive consultations with other local authorities and cycling groups.
- 1.13.6. Future longer distance strategic routes have also been considered as part of the NMU provision. For example the Joint Core Strategy has identified a proposed green infrastructure network for the whole of the Greater Norwich Area.

1.14. David Clague – Dated 26 June 2014

Representation

There is no demonstrated current need for the NDR.

Applicant's comment

1.14.1. Refer to Para 1.1.1 to 1.1.3 above.

Representation

NCC is planning to borrow a minimum of £60 million to add to the Government's contribution. This amounts to speculation with public money.

Applicant's comment

1.14.2. Refer to Para 1.5.20 to 1.5.21 above.

1.14.3. Refer to Para 1.9.9 to 1.9.11 above.

Representation

I find the traffic projections for the radial roads particularly alarming

Applicant's comment

1.14.4. Refer to Para 1.1.4 above.

Representation

Also it is not stated whether these projections include seasonal holiday traffic, or to what extent they include the additional vehicles from the 10,000 new homes and associated businesses, which would exacerbate the problem.

Applicant's comment

- 1.14.5. The traffic forecasts are generally expressed as Annual Average Daily Traffic (AADT) flows, which are total yearly flows divided by 365, and therefore include allowance for seasonal variations.

- 1.14.6. The traffic forecasts were built up from models representing peak periods and time periods during the day as described in Section 4.3.3 of the Document Ref 5.9. Where possible traffic surveys were carried out in October or November, which are designated as 'neutral' or representative months in terms of seasonal variation (see DfT's Transport Analysis Guidance Unit M1.2 - Data Sources and Surveys - section 3.3.6) Where traffic surveys had been carried out in other months, the results were normalised as described in the Highway Model Local Model Validation Report (document 5.9) sections 3.7.1 to 3.7.3. Hence traffic model represent an average weekday in a neutral month. Traffic flow data extracted from the models are then converted to an average annual weekday (AADT) using annualisation factors to allow for seasonal variations. The calculation of these factors is set out in Appendix A of the Economic Appraisal Report (Document Ref. 5.7).

- 1.14.7. Traffic resulting from future developments was included in the transport model, and is detailed in sections 5.3 to 5.6 and appendices C to F of the Traffic Forecasting Report (document 5.6).

1.15. Brian Cleland – Published 3 July 2014

Representation

Norfolk County Council, in its papers, says that merely building the road will cause a further 25000 traffic movements per day.

Applicant's comment

- 1.15.1. The traffic forecasting described in the Traffic Forecasting Report (Document Ref. 5.6) sets out the assumptions made in the forecasting process. This includes allowing for the spatial allocation of new development planned in the Joint Core Strategy and the consequential increase trips. This increase is due to this assumption rather than as a direct consequence of adding the NDR to the network. A demand modelling process has also been applied in the forecasting as explained in section 3.3 but this shows that the NDR would result in a very small amount of induced trips, as set out in section 6.5. The statement that merely building the road will result in a further 25000 traffic movements per day is therefore not accepted as representing the outcome of the forecasting process.

Representation

The traffic through Hellesdon, on both the Reepham Road and Cromer Road, will not be reduced by the NDR (NCC, in their local consultation exercises, have admitted that there will be no improvement), giving lie to the claim that the NDR will reduce traffic through the northern suburbs.

Applicant's comment

- 1.15.2. Refer to Para 1.15.1 above.
- 1.15.3. Following consultations in April/May/June 2012 Norfolk County Council examined a number of options, together with Hellesdon Parish Council and local community, to reduce vehicle volumes on Reepham Road. This included the consideration of traffic calming measures on Reepham Road.
- 1.15.4. Following this work the preferred option was the relocation of the roundabout at Fir Covert Road to the NDR junction with the A1067 Fakenham Road. This option was included in the proposals presented at the February/March 2013 consultations. After these consultations the proposals were further amended to provide a roundabout at Fir Covert Road as well as at the A1067 Fakenham Road.
- 1.15.5. These proposals were supported by Hellesdon Parish Council in their response to the pre-application consultations undertaken in 2013 and Norfolk County Council still considers that this is the preferred option.
- 1.15.6. Cromer Road is part of the A class road network and Norfolk County Council does not consider that traffic calming on this road should be included as part of the NDR scheme.

Representation

The NDR is designed to provide quick access to the Southern Bypass for residents of North East Norfolk, there is no justification for building any of the NDR westward from the proposed junction on Holt Road.

Applicant's comment

1.15.7. Refer to Para 1.9.1 to 1.9.4 above.

Representation

Because of the presence of Norwich Airport, especially the helicopter base, there is a significant risk that air and noise pollution in Hellesdon, and probably other adjacent suburbs, will exceed acceptable levels if the NDR is built.

Applicant's comment

1.15.8. Refer to Para 1.1.9 to 1.1.11 above.

Representation

I am very unhappy about the cost-benefit analysis for the NDR. Benefits in excess of £1 billion are impossible to verify.

Applicant's comment

1.15.9. Refer to Para 1.9.9 to 1.9.11 above.

1.16. Michael Collar – Published 3 July 2014

Representation

The plans for the NDR as submitted by NCC do not comply with either national government policy or NCCs own policy objectives in that they make inadequate provision for cyclists and other non motorised users on certain routes.

Applicant's comment

- 1.16.1. The needs of cyclists including those addressed as part of the scheme have been developed through consultation with interested parties. During the April/ May/ June 2012 public consultations NCC had various requests for improved walking and cycling facilities as part of the proposals for the NDR. As a result a strategy was developed to consider and prioritise these consultation requests. The strategy published as part of the February/ March 2013 public consultations identified a network of routes to link areas that generate Non Motorised Users (NMU) with each other, such as villages, employment areas and future developments, with the Norwich Cycle Network and longer distance recreational routes such as the Marriott's Way. Part of these routes utilised narrow country lanes, roads closed to motor vehicles and existing public rights of way. NCC has prioritised NMU improvements on this network, and these improvements have included new NMU facilities as part of the proposals. Approximately 25 kilometres of new links suitable for use by pedestrians, cyclists and equestrians (where permitted) would be provided alongside, over, and connecting with, the NDR, together with improved surfacing provided on some existing rights of way. The scheme includes eight grade separated crossings of the NDR and two grade separated crossings of the A47. Various NMU at grade crossings of NDR and side roads are also proposed. The NMU proposals are shown on the General Arrangement Plans (Document Ref. 2.6).

- 1.16.2. NCC has considered requests for cycle improvements and developed a strategy to prioritise these. This included identifying routes that linked communities with Norwich via its agreed Norwich Cycle Network. With specific regard to providing links to the Broads areas, NCC, as part of its Norfolk Trails initiative, has a longer term aspiration to provide a NMU route from Wroxham (as a key tourist destination in the Broads area) and Norwich (by linking into the already adopted Norwich Cycle Network).

1.17. Margherita Colombo – Dated 29 June 2014

Representation

What is the impact on the villages?

Applicant's comment

- 1.17.1. Refer to Para 1.1.9 to 1.1.11 above.

Representation

How will the water supply for agriculture be affected?

Applicant's comment

- 1.17.2. The issue of water availability has been addressed within the following document which can be found in Appendix A. *The Joint Core Strategy Water Resource Availability Study Greater Norwich Addendum to Habitats Regulations Assessment to Consider Impact of Water Abstraction to 2015 Greater Norwich Development Partnership.*

Representation

Has the improvement of Public Transport been considered?

Applicant's comment

- 1.17.3. Refer to Para 1.1.5 to 1.1.8 above

Representation

Has the possibility of transport of goods by Railways been examined?

Applicant's comment

- 1.17.4. In 2003 a study was undertaken on Light Rapid Transit Study for Norwich as part of the evidence base to inform the review of NATS which led to the adoption of a revised NATS including the NDR. Modes considered included guided bus, ultra light rail and tram. The study considered conceptual route options, with appraisal undertaken to examine outline economic feasibility of preferred route and mode options.
- 1.17.5. The 2003 study informed the work on strategy options documented in the 2005 NATS Options Assessment Report and is referenced within this report in Section 4.3.1. These included light rail as a strategy option, which was recommended for rejection on affordability and financial sustainability grounds.
- 1.17.6. Further consideration was given to light rail in 2007 - 2008 during the development of public transport options for the NDR Major Scheme Business Case (MSBC). Four options were assessed against the NATS and NDR objectives, including:

- 1.17.7. Option 2A - A Bus Rapid Transit (BRT) system linking key housing and employment growth locations and the city centre, complemented by road user charging or workplace parking charging within the Inner Ring Road, implementation of physical measures to remove through traffic from the city centre and improvements to junctions on the Inner and Outer Ring Roads.
- 1.17.8. Commentary on this option - “This option is proposed as a more affordable alternative to the light rapid transit option considered and appraised during the 2002-2004 NATS Review. If a light rail option is likely to be discarded on affordability and financial sustainability grounds, it would be appropriate to consider BRT as an intermediate mode between conventional bus and light rail. “
- 1.17.9. Option 2B - A Light Rail Transit (LRT) system linking key housing and employment growth locations and the city centre, complemented by road user charging or workplace parking charging within the Inner Ring Road, implementation of physical measures to remove through traffic from the city centre and improvements to junctions on the Inner and Outer Ring Roads.
- 1.17.10. Commentary on this option - “There is a case to be made that sufficient work has already been done on this option to justify discarding it on affordability and financial sustainability grounds, but it has been retained at this stage of the process to enable a comparative assessment of Bus Rapid Transit and Light Rail Transit.”
- 1.17.11. The assessment concluded that Options 2A and 2B performed similarly against both the NATS and NDR objectives and thus Option 2A (Bus Rapid Transit) should be preferred over Option 2B (Light Rail) on grounds of practicality and affordability, as it was considered that BRT was more likely than LRT to be economically viable to serve a city of the scale of Norwich.

- 1.17.12. The potential for light rail was therefore considered at a strategic level during the period 2003-2005 and prior to the adoption of a revised NATS including the NDR. Light rail was also considered at a plan level as a potential alternative to the NDR during the preparation of the MSBC. The outcome of this process was the inclusion of proposals for Bus Rapid Transit within the NATS Implementation Plan in preference to Light Rail Transit, with BRT being identified as complementary to the NDR rather than an alternative to it.

Representation

How are the law requirements to lower CO2 emissions by 2025 been considered and satisfied if more car traffic is encouraged on the roads?

Applicant's comment

- 1.17.13. The ES - Volume 1, Chapter 5 (Document Ref 6.1) examines the emissions of carbon arising from the NDR. The construction phase of the Scheme will lead to a one-off carbon emission from the use of construction materials, plant and transport. Mitigation measures have been included in the Scheme design, which reduce overall emissions from construction by 13.8kt CO₂. Carbon emissions during the operational phase of the Scheme will occur as a result of an increase in vehicle kilometres. Changes in absolute emissions will represent around 1% of the total emissions from all sources within the relevant Local Authorities in the assessment years. Carbon sequestration will increase as the habitat creation and landscaping matures.

Representation

Loss of food producing land and beautiful countryside

Applicant's comment

1.17.14. Refer to Para 1.2.14 to 1.2.15 above.

1.17.15. Refer to Para 1.1.9 to 1.1.11 above.

1.18. Robert Craggs – Dated 29 June 2014

Representation

The concept of this Norwich NDR goes back to the 1980's and a Public Consultation on the options for the route it might take, took place in late 2004. Yet despite the moves to supposedly give people a greater say in matters affecting their environment, such as the Localism Bill, the authorities appear to have striven to deny people meaningful consultation on this.

Applicant's comment

1.18.1. Refer to Para 1.7.5 to 1.7.6 above.

Representation

The fact that work has already started on the Postwick Hub before this NNDR has been approved is also indicative of the cynical approach that authorities have shown to public consultation

Applicant's comment

1.18.2. Refer to Para 1.2.7 to 1.2.9 above.

Representation

How NCC can say that they 'inadvertently' lost these documents without taking immediate remedial action, and how an urged inquiry into this failed to explain what was going on, was always bound to create suspicion.

Applicant's comment

1.18.3. Refer to Para 1.7.4 above.

Representation

How a planning application for a complete By-pass that the NDR was when subject to widespread public consultation in 2004, can switch from a Planning Application process to a Development Consent Order when the road itself is now shorter and not a by-pass, begs the questions as to why?

Applicant's comment

1.18.4. Refer to Para 1.2.3 to 1.2.6 above.

Representation

The blank refusal to evaluate the merits of the Inner Link Road that was the NCC's Pink Route option.

Applicant's comment

1.18.5. Refer to Para 1.5.22 to 1.5.24 above.

Representation

The writer has comprehensively communicated his concerns about flood risk to Broadland DC Officers and Members, and has noted their own acknowledged failure to comply with relevant national policies covering development and flood risk, and as a consequence considers that it is illogical and wrong for them to sign off this Local Impact Assessment.

Applicant's comment

- 1.18.6. Vol 2 Chapter 21 of the Environmental Statement contains the Flood Risk Assessment an addendum to this document addressing specific issues has now been finalised.

1.19. Cromer Town Council – Dated 26 June 2014

Representation

I am writing following a recent Town Council meeting when it was agreed to support this initiative. Cromer Town Council feel it will add value to the economic climate of North Norfolk. We would like it noted that we have concerns over the A140 junction and would ask that adequate provision is made at this junction in order that there are no major tailbacks.

Applicant's comment

- 1.19.1. The Applicant notes the comment that it is considered the Scheme will add value to the economic climate of North Norfolk.
- 1.19.2. Detailed operational assessments of both the Cromer Road South and Cromer Road North junctions are contained in paragraphs 8.5.19 to 8.5.27 of the Transport Assessment (Document Ref 5.5).

1.20. Peter J Croot – Published 3 July 2014

Representation

Destruction of unique habitat and farm land

Applicant's comment

1.20.1. Refer to Para 1.2.14 to 1.2.15 above.

1.20.2. Refer to Para 1.1.9 to 1.1.11 above.

Representation

Road will increase pollution, would the provision of better rail, public transport and cycleways be better.

Applicant's comment

1.20.3. Refer to Para 1.1.9 to 1.1.11 above.

1.20.4. Refer to Para 1.1.5 to 1.1.8 above.

1.21. D & P Colchester – Dated 10 June 2014

Representation

Concerned about the closure of the road (Low Road) to us, disturbance. This will affect the income from self catering holiday cottage.

Applicant's comment

1.21.1. In relation to disturbance Refer to Para 1.1.9 to 1.1.11 above.

1.21.2. Subject to meeting appropriate criteria at the relevant date the party may be entitled to submit a claim under Part 1 of the Land Compensation Act 1973 where these issues would be considered.

Representation

Concerned that by having this road it will open up the building of many houses and the expansion of the business parks.

Applicant's comment

1.21.3. Refer to Para 1.7.10 to 1.7.15 above.

Representation

Our deep borehole is the only source of water to the barn and bungalow at South Lodge Farm as well as South Lodge Cottage, mains water is not available on this part of low road.

Applicant's comment

1.21.4. This borehole is situated at minimum distance of 380m from the NDR. Measures are in place to ensure all groundwater along the route of the NDR is adequately protected. No adverse effects are anticipated to this source of water.

1.22. Keith Davies – Dated 26 June 2014

Representation

At present the western end of the NDR finishes on the A1067 at Taverham. Much of the traffic using the NDR will need to progress to the A47 and A11 main roads, but the only route from the proposed NDR to the A47/A11 is currently via country roads.

Applicant's comment

1.22.1. Refer to Para 1.5.2 to 1.5.4 above.

1.23. Graham Everett – Dated 30 June 2014

Representation

Although not the perfect solution, the NDR is essential to ease the increase in traffic movements around this northern part of Norwich and without it many of the proposed housing developments would be impossible.

Applicant's comment

1.23.1. The Applicant has noted this representation.

Representation

A very simple and certainly a safer option with only a minor change to the NDR scheme would be to do away with the sweeping bend and install a roundabout at the Drayton Lane (South) junction with Reepham Road.

Applicant's comment

1.23.2. Refer to Para 1.10.1 to 1.10.5 above.

Representation

I believe that having a roundabout at the Drayton Lane (South) junction will not affect the traffic numbers through Drayton but it will make Hall Lane (North) a safer road by removing large volumes of traffic. NCC are using inaccurate figures to advise residents in Drayton that to keep Drayton Lane(South) open would increase traffic through the village.

Applicant's comment

1.23.3. The traffic model developed for Norwich and for the appraisal of NDR is designed so that it is capable of forecasting the traffic impacts of the proposed measures, or alternatives to these, across the city network and surrounding area. To produce the most likely and credible

forecasts it is necessary to start with a base model of sufficient accuracy and realistic assumptions about the changes in traffic demand and the behaviour of users. The Department for Transport (DfT) produce best practice guidance that sets standards that should be met in the development of the base model, and provides guidance and data for the realistic estimation of the future. The traffic model development has complied with this guidance and used the data made available by the DfT.

- 1.23.4. The traffic model was validated to meet DfT guidance targets and the validation results that support the latest traffic model are set out in the Highway Model - Local Model Validation (Document Ref. 5.9).
- 1.23.5. This sets out how the latest survey data collected in 2012 has been used to build the traffic model shows that it provides a good representation of traffic behaviour in the study area. The base model is checked by comparing overall modelled flows across strategic cordons (rings) and screen lines. These global checks meet DfT criteria. On this basis it is considered that the base model forms a robust basis from which future year forecasts for the NDR scheme can be developed.
- 1.23.6. The calibration and validation in the local area around Drayton is considered to be good. This is illustrated by the results for the calibration screen line D shown in Tables S4, S15 and S26 for Drayton High Road (location D5), Reephram Road (D6) and Hall Lane (D7) and the validation screen line I shown in Tables S11, S22 and S33 for Hall Lane (I6) and School Road (I7).

- 1.23.7. Further counts were also carried out in 2013 on Drayton Lane and Hall Lane to support the investigation of a number of options to address the concerns raised regarding the closure of Drayton Lane. These showed noticeable differences on these two roads compared with the model although adding the two counts together produced corridor counts that matched very closely with the validation count at location I6. Therefore it is considered that the model is acceptable for the appraisal of the Scheme and an alternative with Drayton lane kept open.
- 1.23.8. With this good quality base information in the local Drayton area it means that credible forecasts have been produced for the impacts of the NDR proposals in the local area. The forecasts are reported in Norwich NDR Traffic Forecasting Report (Document Ref. 5.6). This shows in Appendix I in Figure I1 the forecasts of Annual Average Daily Traffic flows in the local Drayton area with and without the current proposals for NDR (with Drayton Lane closed).
- 1.23.9. The traffic model has proved extremely useful in enabling a comparative assessment in traffic flows in the Drayton area for the various options that have been investigated to address the concerns raised as a result of the proposed closure of Drayton Lane.
- 1.23.10. Reopening of Drayton Lane (south) and a roundabout junction with Reepham Road would make the route shorter and quicker between the A1067 and NDR and thus a more attractive route for drivers to use. Traffic modelling has been carried out and in reflecting these changes it showed that there would be an increase in traffic on this route and through Drayton, which is a logical outcome. It is not accepted that the outcome from the modelling is inaccurate in this respect.

1.24. Miss Fielding - Dated 30 June 2014

Representation

A lot of beautiful countryside from the A140 to the A1067 north of the city would be lost due to construction of such a large road. Wildlife will be displaced or destroyed by the proposed dual carriageway. There will be additional noise and emissions.

Applicant's comment

1.24.1. Refer to Para 1.1.9 to 1.1.11 above.

Representation

The junctions that will be lost eg Breck Farm Lane will be closed which is inconvenient to local people.

Applicant's comment

1.24.2. Refer to Para 1.5.11 above.

Representation

The countryside beyond the A140 will be sliced into segments by the proposed NDR which is unnecessary for the amount of traffic that will be using it. The NDR does not go anywhere and will just dump the traffic on to the Fakenham road (A1067). If the traffic is heading on to the A47 then it will have to move via minor roads between the A1067 and the A47 (towards Dereham). Is this what the planners hope! Overload small roads over the Wensum Valley so that eventually a road is built across the Wensum Valley.

Applicant's comment

1.24.3. Refer to Para 1.9.5 to 1.9.8 above.

Representation

If the NDR is to help the traffic to move from the south to the north then the Southern bypass already provides this.

Applicant's comment

- 1.24.4. The Southern Bypass A47(T) provides the strategic east-west route across Norfolk part of which passes around the south of Norwich. It does not provide a north-south link.

Representation

The speed at which traffic will join the Fakenham road, which is smaller, will be excessive which will cause additional accidents.

Applicant's comment

- 1.24.5. A roundabout junction will connect the NDR to the Fakenham Road. Vehicles approaching from the NDR will be required to give way to traffic on the circulatory carriageway of the roundabout. This will have the effect of reducing vehicles speeds on the approach to and through the roundabout junction. In addition to its natural function as a junction a roundabout can be useful to facilitate a change in the road standard from a dual carriageway to a single carriageway as is the case at this location.

Representation

As for businesses benefiting, local people moved to this area as they like it the way it is and are prepared, in the main, to travel via small roads to get anywhere.

Applicant's comment

- 1.24.6. Refer to Para 1.1.1 to 1.1.4 above.
- 1.24.7. It is acknowledged that some local drivers will choose to continue using the minor road network however a significant proportion of local and long distance trips will migrate to the improved highway network as a consequence of delivering the NDR. This will include HGV movements.

1.25. E C Fletcher - Dated 30 June 2014

Representation

It appears that objections to the scheme will not even be taken into account. This is a clear denial of democratic representation.

Applicant's comment

- 1.25.1. Refer to Para 1.2.1 to 1.2.2 above.
- 1.25.2. Refer to Para 1.7.4 to 1.7.6 above.

Representation

The majority of the public affected are against such a road being built.

Applicant's comment

- 1.25.3. Refer to Para 1.5.19 above.

Representation

The junction at Postwick is being constructed which seems a huge waste of taxpayers' money.

Applicant's comment

1.25.4. Refer to Para 1.2.7 to 1.2.8 above.

Representation

We should concentrate on upgrading the A47.

Applicant's comment

1.25.5. NCC cannot switch funding from one budget to another and cannot spend government funding allocated to the NDR on the A47. In addition, the A47 is a trunk road and therefore the Council is not responsible for its improvement. This is covered in various application documents (such as chapter 3 of Volume 1 to the Environmental Statement (Document. Ref 6.1)

1.26. Mike Flett – Dated 26 June 2014

Representation

My submission relates to the decision taken to create a very expensive alteration to the junction on the A47 Norwich Southern bypass at Postwick. NCC have decided to go ahead with a scheme they state has nothing to do with the possibility of the Northern Distributor Road and has been unable or unwilling to first obtain planning permission for the ultimate objective (the NDR).

Applicant's comment

- 1.26.1. The Postwick Hub proposal has already been examined in detail at the Public Inquiry in 2013 and has subsequently been approved by Government. It has been designed to be able to accommodate the NDR traffic and the traffic impact is set out in the Transport Assessment (Document. Ref 5.5).
- 1.26.2. Paragraph 7.8.1 of the Transport Assessment explains that the existing junction configuration at Postwick presently leads to substantial delays and queuing, with queues reaching the A47(T) westbound diverge slip road. Traffic growth would exacerbate this situation and there will be a high risk of queues conflicting with high speed traffic on the A47(T). In addition it explains that existing orbital routes already carry significant amounts of traffic due to the lack of a strategic provision. This traffic is predicted to increase in future years. A number of these roads are inappropriate for the amount of traffic they carry presently or will carry in the future.
- 1.26.3. The results for the assessment of the Scheme junctions are presented in section 8 of the Transport Assessment, and proposed Postwick junctions are assessed in section 8.6. The junction layouts are considered to be the best possible balance between relieving the existing network whilst ensuring acceptable conditions on this new part of the network.

1.26.4. Refer to Para 1.2.7 to 1.2.9 above.

1.27. Ruth Goodall - Dated 28 June 2014

Representation

NDR will mean additional traffic in Weston Longville will exceed the capacity of existing roads.

Applicant's comment

1.27.1. Refer to para 1.5.2 to 1.5.4 above.

1.28. Brown & Co on behalf of R Gurney and S E Gurney Partners – Dated 30 June 2014

Representation

The estate does not lose land but wishes to join the other local opposition to the junction closure near Spixworth/Crostwick Lane.

Applicant's comment

- 1.28.1. Following comments received from the April/May/June 2012 consultations NCC agreed to examine the operation of this junction. Assessment of the existing junction layout showed that it would operate within its desirable capacity in 2017 and 2032 with the NDR in place. Operational assessment of this junction is contained in Chapter 8.7 on pages 107 to 109 of the Transport Assessment (Document Ref 5.5).
- 1.28.2. As part of the statutory pre application consultation the Parish Council commented that by a narrow majority it supported the proposal for the Crostwick Lane/Rackheath Lane/B1150 junction (Refer to PC033 on page 45 of Appendix T of the Pre-application Consultation Report (Document Ref 5.1).
- 1.28.3. The reason for the closure is primarily to improve highway safety at the junction. The closure of Rackheath Lane will simplify turning movements, allowing drivers waiting at the Crostwick Lane arm to concentrate on the on the main road.

1.29. Phyll Hardie - Dated 28 June 2014

Representation

I wish to lodge an objection to the building of the Norwich Northern Distributor Road on the grounds of loss of countryside and tourist amenity and wildlife habitat.

Applicant's comment

- 1.29.1. Refer to Para 1.1.9 to 1.1.11 above.
- 1.29.2. The Land Use and Economic Development Report (Document 10.3) contains information on the impact of the NDR on tourism:-
- Some respondents to a qualitative business consultation and engagement exercise in 2011 predicted that *"the tourism industry will benefit significantly due to easier access into the city drawing in new visitors and a larger number of customers who currently travel elsewhere."* (section 4.2.3).
- 1.29.3. Further details of the impact of the scheme on tourism both within Norwich and beyond has been provided in response to ExA first Written Questions 7.5.

1.30. Mrs M Howes - Published 3 July 2014

Representation

One of the reasons given for this proposed road is to link Great Yarmouth to the Airport. This will not work effectively until you complete the dualling of the A47 from Great Yarmouth to the city.

Applicant's comment

- 1.30.1. The A47(T) is maintained and managed by the Highways Agency (HA) as it forms part of the National Trunk road network and therefore any improvements will be promoted by the HA. NCC is part of the A47(T) Alliance group that continues to lobby Central Government to invest in upgrading the A47(T) across Norfolk.

Representation

Instead of the NDR, there were plans in 2002 and a Public Consultation in 2004 showing various coloured routes to link with the airport. One of these was the pink route which, at the time, was preferred since this was the reason for building the roundabout on Wroxham Road and the siting of the Park & Ride there.

Applicant's comment

- 1.30.2. Refer to Para 1.5.22 to 1.5.24 above.

Representation

I am increasingly concerned at the covering of good productive agricultural and horticultural land.

Applicant's comment

- 1.30.3. Refer to Para 1.2.14 to 1.2.15 above.

Representation

I do not think that the impact of flooding has been properly assessed and it is obvious that the more land you cover the greater the chances of flooding.

Applicant's comment

1.30.4. Refer to Para 1.18.6 above.

1.31. Jason Hunt - Dated 29 June 2014

Representation

The NDR is a waste of money

Applicant's comment

1.31.1. Refer to Para 1.9.9 to 1.9.11

1.31.2. Refer to Para 1.5.20 to 1.5.21

Representation

It will destroy crucial habitat, at a time where lots of wildlife are on the brink of extinction. The proposed route will also increase noise and air pollution.

Applicant's comment

1.31.3. Refer to Para 1.1.9 to 1.1.11

1.32. John Hurst – Dated 28 June 2014

Representation

I am writing to formally ask the Planning Inspectorate to consider whether or not it should be a condition/requirement of the proposed Development Consent Order that the final section of the proposed NDR (between the Airport and the A1067) should only receive approval if certain steps are agreed with the Applicant to ameliorate the environmental impact on the village of Weston Longville and to improve the existing HGV link road between Lenwade and the A47 at Honingham.

Applicant's comment

- 1.32.1. Refer to 1.5.2 to 1.5.4 above.
- 1.32.2. The Applicant has set out elsewhere the position in relation to the areas to the west of Norwich, north of the A47 – see Para 1.5.3 to 1.5.4 above. As set out there, the Applicant has already put in place measures to deal with existing issues and is continuing to monitor the position and carry out other measures. For this reason the Applicant does not consider that the imposition of a requirement in the DCO is necessary or appropriate.
- 1.32.3. Requirements are similar in nature to planning conditions, and the Draft National Policy Statement for National Networks (“the Draft NPS”, December 2013, see paragraph 4.6) confirms that they should be considered against the same tests as planning conditions. The Draft NPS states that requirements should only be recommended and imposed where they are “necessary, relevant to planning, relevant to the development to be consented, enforceable, precise and reasonable in all other respects”. Whilst the Draft NPS is only a consultation draft document, the policy in relation to requirements reflects the policy that has been in place for planning conditions for many years, as well as the policy in other national policy statements which have been published (such as EN-1, Overarching National

Policy Statement for Energy). The Applicant therefore considers that this aspect of the Draft NPS carries a lot of weight. As no significant impacts are likely, a requirement cannot be necessary, and should not therefore be imposed.

1.33. Michael Innes – Dated 28 June 2014

Representation

THE GNDRP has pursued its Joint Core Strategy, which includes the associated NNDR, with a very single mind. It seems to the writer, that in pursuit of its large ambitions for growth, its methodology for its achievement has been much too narrow. Approval of the NNDR would amount to intrinsically, 'bad' planning. If approval for this road seems unjustified in a wider, national, context, it will be positively damaging in the local scene.

Applicant's comment

- 1.33.1. The JCS is an adopted plan that underwent the proper statutory local plan processes, including a thorough examination process and consultation, and was found sound by independent government inspectors. This is the appropriate mechanism for such development strategies. The JCS legitimately and appropriately takes account of the plans of the transport authority including the proposals for NATS and the NDR. The JCS proposals for 10,000 dwellings in the growth triangle were subject to examination as recently as 2013 and found sound.
- 1.33.2. Refer to Para 1.1.1 to 1.1.3 above.

1.34. Edwina Knowles – Dated 29 June 2014

Representation

The design incorporates the level crossing at Thorpe End which will, within the plan period, lead to safety issues on the level crossing. Whilst the current design is adequate NCC should agree with Network Rail published limits to traffic movements relating to increased rail use of the level crossing. Alternatively, now or in the future, NCC should consider rerouting traffic south to the roundabout south of Smea Lane so that network Rail can close the level crossing on the NDR/Acle junction.

Applicant's comment

- 1.34.1. There are two level crossings in the vicinity of the proposed scheme. The first is located on Plumstead Road close to the NDR and Appendix I of the Traffic Forecasting Report (Document Ref 5.6) identifies a slight reduction in vehicle flows on this road in 2017 and 2032 as a result of the NDR when compared to a do minimum scenario.
- 1.34.2. The second is located on Broad Lane/Green Lane East between Salhouse Road and Plumstead Road. Appendix I of the Traffic Forecasting Report (Document Ref 5.6) identifies a significant reduction in vehicle flows on this road in 2017 and 2032 as a result of the NDR when compared to a do minimum scenario.
- 1.34.3. As a result of these forecast reductions NCC considers that the potential risks at the level crossings are reduced as a result of the NDR. However, NCC will continue discussions with Network Rail Infrastructure Ltd regarding asset protection and the impacts on these level crossings.

1.35. Tom Loudon - Published 3 July 2014

Representation

The extraction of oil is becoming more environmentally destructive and politically volatile, but the NDR consolidates the need for individual car travel, when the onus needs to be on reducing the carbon footprint of our transport infrastructure.

Applicant's comment

1.35.1. Refer to Para 1.7.18 above

1.36. Laura and Paul Marshall - Dated 29 June 2014

Representation

The proposed route does not link up to the A47 and will effectively dump high volumes of traffic to the west of Taverham on the A1067.

Applicant's comment

1.36.1. Refer to Para 1.9.5 to 1.9.8 above.

Representation

Concern about the environmental impact this road is likely to cause and in particular its effect on CO2 emissions, spoiling the landscape and the effects on protected species. The proposed road will significantly add to noise levels in the area where we live which is currently quiet and peaceful.

Applicant's comment

1.36.2. Refer to Para 1.1.9 to 1.1.11 above.

Representation

In terms of Finance, whilst part of the cost is being borne nationally there is a significant cost to the County Council, which in these times of austerity cannot be justified against a reduction in other key services. The so called economic benefits seem 'figures out of the sky'.

Applicant's comment

1.36.3. Refer to Para 1.4.2 to 1.4.5 above.

1.37. Dr Graham Martin - Dated 28 June 2014

Representation

Questioning the legality of the Inspectorate's timing and acceptance of the NSIP application and the lack evidence to support NCC application for the NDR to be considered a NSIP.

Applicant's comment

1.37.1. Refer to Para 1.2.3 to 1.2.6 above.

Representation

A major function of the NDR would be to service a proposal for over 12,000 houses and associated retail and business parks along the northern and eastern fringe of Norwich. There is growing evidence that scale of growth is not only unwanted but not needed.

Applicant's comment

1.37.2. Refer to Para 1.7.10 to 1.7.15 above.

Representation

It is difficult to understand how there can be any significant reduction in existing flows given the proposed increase in houses and associated business and retail parks, especially when the report shows roads significant increases on nearly all radial routes across the NDR and in the majority of these cases if the NDR were not built there would be less traffic.

Applicant's comment

1.37.3. Refer to Para 1.1.4 above.

Representation

Money that will be spent on the massive and unnecessary NDR project could be better used.

Applicant's comment

1.37.4. Refer to Para 1.9.9 to 1.9.11 above.

1.37.5. Refer to Para 1.5.20 to 1.5.21 above.

1.38. Peter and Alicia Hull on behalf of North Norfolk Green Party - Dated 28 June 2014

Representation

The NNDR, originally proposed to reduce congestion, is now little more than a developers' charter for areas to the north of Norwich.

Applicant's comment

- 1.38.1. Refer to Para 1.1.1 to 1.1.4 above.

Representation

The increased car dependent house building which will follow the NNDR, will inevitably lead to more car journeys to the North Norfolk coast, putting strains on our local roads.

Applicant's comment

- 1.38.2. The Cumulative Impact Assessment in Volume 1. Chapter 15 of the Environmental Statement (Doc Ref 6.1) considered the NDR with regard to other identified developments.
- 1.38.3. One of the aims of the NDR is to improve connectivity across the north of Norwich by providing a route to distribute traffic including to the coastal areas. The A11 provides a dual carriageway from London to Norwich that will improve connectivity with the rest of the country. This will provide social and economic benefits to Norwich and will most likely increase tourist activity and therefore visitor pressure. Generally visitor pressure at sensitive times to wildlife is managed by the wildlife organisations locally. There have been no representations submitted by either the Norfolk Coast Partnership or the National Trust.

Representation

Congestion should be reduced by reducing car use. Resources should be concentrated on creating a Public Transport system that is integrated and has a primary purpose of transporting the public.

Applicant's comment

1.38.4. Refer to Para 1.1.5 to 1.1.8 above.

1.39. Simon Norton - Dated 27 June 2014

Representation

The road will stimulate "the wrong kind of development". In other words, people who work on site, or need to travel to or from it for other reasons, will do so almost exclusively by car. A public transport option for the NDR corridor would not provide value for money. In other words, people will not be able to make the type of journey the NDR is intended to facilitate by public transport. A car based transport system generates many times more emissions than a public transport based system.

Applicant's comment

1.39.1. Refer to 1.1.4 to 1.1.8 above

Representation

The NDR will encourage the growth of road traffic. This will lead to increased congestion, noise, danger and pollution. I do not accept the argument that inner city radial routes will be relieved.

Applicant's comment

1.39.2. Refer to Para 1.1.4 above.

1.39.3. Refer to Para 1.1.9 to 1.1.11 above.

Representation

I don't know what plans are afoot to deal with rat running between the A1067 and A47.

Applicant's comment

1.39.4. Refer to Para 1.9.5 to 1.9.8 above.

1.40. NIA - Richard Pace – Dated 30 June 2014

Representation

Norwich International Airport fully supports the development of the NDR. The Airport is recognised as a key enabler of economic activity in the region, supporting the energy, education, engineering, financial services, research & technology and tourism sectors, amongst others.

Applicant's comment

- 1.40.1. The Applicant has noted this representation.

1.41. Old Catton Parish Council - Melanie Kingshott – Dated 30 June 2014

Representation

Old Catton, whilst not being directly affected by the proposed NDR is concerned that there could be an increase in the volume of traffic through the village.

Applicant's comment

- 1.41.1. NCC and Old Catton Parish council agree that the provision of the Buxton Road Bridge over the NDR is the most appropriate solution at this location. However, it is acknowledged that future modelled vehicle flow predictions identify a slight increase on Spixworth Road as a result of the NDR.
- 1.41.2. Appendix I of the Traffic Forecasting Report (Document Ref 5.6) identifies a reduction in two-way vehicle flows on St Faiths Road to the south of Fifers Lane. Average daily predicted flows in 2017 are 12400 with the NDR and 15000 without the NDR. In 2032 flows are 12700 with the NDR and 15700 without the NDR. No model predictions for Church Street are available although Norfolk County Council considers that this orbital route, which is currently being used for traffic moving around Norwich, will benefit from reductions in this type of traffic due to the NDR.

Representation

Objectors to the NDR have not realised the importance the NDR will have to this agricultural county.

Applicant's comment

- 1.41.3. The Applicant has noted this representation.

1.42. Nick Olney – Dated 28 June 2014

Representation

I am most concerned around the impact of substantial increases in traffic volumes in and around Thorpe End and the surrounding areas which will have a consequent rise in noise levels for the residents.

Applicant's comment

- 1.42.1. Traffic forecasts on Plumstead Road through Thorpe End village are shown in the Traffic Forecasting Report (Document Reference 5.6) in Figure I.2 in Vol3. This shows that traffic levels would reduce with the Scheme to levels substantially below the base 2012 levels (location A84). Traffic flows in this area would also be affected by the implementation of the link road associated with Brook Farm / Laurel Farm development.
- 1.42.2. Refer to Para 1.1.9 to 1.1.11 above.

1.43. Robert Robinson – Dated 29 June 2014

Representation

I wish to express my opposition to the proposed NDR. The proposed road will have a massive negative impact on the local environment and is simply not justified.

Applicant's comment

- 1.43.1. Refer to Para 1.1.9 to 1.1.11 above
- 1.43.2. Refer to Para 1.1.1 to 1.1.3 above

1.44. Bryan Robinson – Dated 27 June 2014

Representation

The technical submissions do not indicate projected reductions resulting from use of a new NDR and the existing Southern bypass. My suspicion is that these numbers would be minimal and restricted to the population in the northeast corner of Norfolk.

Applicant's comment

- 1.44.1. Figures I.1 to I.5 of Traffic Forecasting Report Vol3 (Document Ref. 5.6) contains forecast traffic flows on NDR and the surrounding area and Section 7.1 in Vol1 contains a detailed explanation of the impact of NDR.

Representation

Additional Housing: There are contradictions within the various GNDP publications as to why the majority of additional housing is proposed in Broadland and this north east quadrant of the Greater Norwich area.

Applicant's comment

- 1.44.2. Refer to Para 1.7.10 to 1.7.15 above.

Representation

Employment in Agriculture is higher in Broadland and South Norfolk than both the regional and national averages. The loss of land for both the road and development would diminish this employment sector.

Applicant's comment

- 1.44.3. Regarding the impact of the NDR on individual farm units, a comprehensive and detailed assessment of this impact was provided in Doc Ref 6.2, Chapter 13, Section A – Agricultural Impact Assessment. This assessment identified 66 individual farm businesses within the area of influence of the NDR. In accordance with the Highways Agency Design Manual for Roads and Bridges (DMRB) Volume 11 guidance, the study was based on an assessment of the land-take (permanent and temporary), changes in land quality, alterations in farm husbandry, field severance, and changes in farm access likely to be imposed on individual farm businesses as a result of the proposed NDR.
- 1.44.4. This study predicted “minor adverse” impacts for 40 farm businesses, “negligible” impacts for 22 farms, and “beneficial” impacts for 4 farms. No farms were predicted to suffer significant adverse impacts (as defined by the categories “moderate adverse” or “major adverse” impacts). The overall impact on commercial agricultural viability in the region will therefore be “negligible” to “minor adverse”. This is because of the sensitive routing and design of the road in addition to a range of mitigation measures that will be applied, such as provision of new means of access and compensation to land users provided by the Applicant. This means that with regard to individual farm businesses, the scheme will proceed in accordance with relevant national and local policies and legislation (as described Doc Ref 6.2, Chapter 13, Section A, 1.2) and some individual farm businesses will

benefit commercially from the NDR. The commercial viability of no farm businesses will be significantly undermined.

Representation

The majority of employment and retail is situated in the urban areas and new housing will only increase traffic on the radial roads.

Applicant's comment

1.44.5. Refer to Para 1.1.4 above.

Representation

The NDR is linked with a proposal to reduce traffic within the Inner Link Road. However, it should not be overlooked that the primary retail area of both the city and county is within the city centre and access will always be required.

Applicant's comment

1.44.6. Refer to Para 1.1.1 to 1.1.3 above.

Representation

One of the areas of Growth identified by the GNDP is the Research Park which is situated in the southwest of the urban area. The housing demand for in-ward migration for these jobs would be in the south of the county rather than Broadland.

Applicant's comment

1.44.7. Refer to Para 1.6.2 above.

Representation

It is unclear of the type of employment is envisaged for GNDP. Historically, the largest proportion in the city is knowledge based jobs. However, this is currently suffering and many office blocks remain empty and/or are subject to proposals to convert into housing.

Applicant's comment

1.44.8. Refer to Para 1.5.6 to 1.5.7 above.

Representation

NCC has progressed with the construction of the Postwick Hub alterations in advance of the NDR, quoting that these works are required on their own because of peak time congestion.

Applicant's comment

1.44.9. Refer to Para 1.2.7 to 1.2.8 above.

Representation

It goes without saying that even on its own the NDR will have a major negative impact of the countryside, but the losses will be magnified by the development resulting from its implementation.

Applicant's comment

1.44.10. Refer to Para 1.1.9 to 1.1.11 above.

1.44.11. Refer to Para 1.7.10 to 1.7.13 above.

Representation

It has been suggested that Broadland Business Park could service the engineering associated with off-shore development in Great Yarmouth and Lowestoft. I would respectfully suggest that both these towns would benefit more if the investment was there rather than Norwich. Great Yarmouth has already expressed concerns that some of their industry might be lost.

Applicant's comment

1.44.12. Refer to Para 1.5.7 above.

1.45. Salhouse Parish Council - Dated 21 March 2014

Representation

Salhouse Parish Council believes that it is wrong that the proposed NDR has become inextricably linked to the planned development of the North East Growth Triangle as designated in the Joint Core Strategy.

Applicant's comment

- 1.45.1. The level of housing and employment provision in the Joint Core Strategy (JCS) is required to meet the objectively assessed need to support economic, household and population growth. This has been determined by the local plan process which is the appropriate mechanism.
- 1.45.2. The existing problems on the transportation network in the Norwich area have been assessed and future problems and issues predicted. The overall transport strategy for the Norwich area, NATS which includes an NDR, has been devised to address the current and future problems and issues. This is described in detail in Section 3 of the Environmental (ES) Statement (Document Ref 6.1).
- 1.45.3. In view of the importance of the NDR within NATS, the local authorities and the Planning Inspectors, who found the JCS sound, have taken the view that if there is no NDR, the JCS would have to be reviewed to determine a different growth strategy for the Norwich area. However, it is not appropriate or necessary to seek to use the DCO examination of the NDR as an opportunity to re-run arguments about whether the JCS planned growth in housing and employment is the appropriate spatial strategy for Greater Norwich. That was a matter that was fully investigated, tested, and settled by the JCS process which had the responsibility of setting the spatial strategy for Greater Norwich.

Representation

We believe local environmental criteria should hold more weight. Issues that concern us include the peace and tranquillity of historic Rackheath Park, the wetland habitat of Dobb's Beck and The Springs, to NW of A1151 which drains into River Bure the peace and beauty of the area around Beeston St. Andrew.

Applicant's comment

- 1.45.4. As set out in Chapter 14 Drainage and Water of the ES Volumes 1 and 2 (Document Refs 6.1 and 6.2) and Chapter 8 Nature Conservation, and Chapter 7 Landscape, There is only one location where there will be a discharge to surface water and that is an indirect discharge, all water will be treated prior to any discharge from the Scheme. It is assessed that any water ultimately discharging to The Springs will be of equal or better quality than is currently the case.
- 1.45.5. An ecological survey has been conducted around and within The Springs. Aquatic invertebrates at The Springs County Wildlife Site were first surveyed in 2005, and repeated in 2006/7. Further surveys were undertaken in 2013, as the previous dataset required updating. At the same time, surveys for Desmoulin's whorl snail (*Vertigo moulinsiana*) were repeated, to allow an accurate assessment on any potential impacts on this sensitive species to be made. Monitoring of water quality will continue throughout construction, to ensure protection. The assessment does not anticipate any adverse impacts on water quality when the Scheme is operational as set out Volume 1 Chapter 14 Drainage and Water of the ES.

- 1.45.6. Landscaped embankments would be provided to screen views of the NDR from the rear of Beeston Hall, which would be gently graded to blend into the existing contours so as to be as unobtrusive as possible. The mitigation provided as the scheme crosses Beeston Park will reduce the effects on this landscape of moderate sensitivity to slight adverse for both year 1 and year 15, although beyond Beeston Park the impact will be moderate adverse in year 1, reducing to 'slight adverse ' by year 15 as the dense mitigation planting matures.

Representation

A further environmental concern is that the new road will cause increased surface drainage runoff into local (Broadland) water courses and that it will contain pollutants from the road.

Applicant's comment

- 1.45.7. Refer to 1.45.4 above.

Representation

We are concerned by the predicted increase in traffic along the A1151 and B1140 between NDR and the new housing developments around Wroxham and Hoveton.

Applicant's comment

- 1.45.8. The amount of development and the general location of development for the Greater Norwich area are detailed in the adopted JCS, the key adopted element of the development plan for Norwich and its surrounding area. This has been found to be sound following independent examinations of that strategy; most recently in 2013.

- 1.45.9. As explained in paragraphs 2.11.2 to 2.11.9 of Volume 1 of the ES (Document Ref 6.1) the NDR scheme is identified as infrastructure which is fundamental to the achievement of the strategy in the JCS. This included the proposed level of growth at Wroxham and evidence provided in relation to the JCS took account of the growth in Hoveton.
- 1.45.10. The Traffic Forecasting Report (Document Ref 5.6) explains that the NDR results in orbital traffic reducing on the existing routes to the east of Norwich (see paragraph 7.1.4). Whilst traffic is forecast to increase on A1151 Wroxham Road as shown in Figure I.2 in Volume 3 of the Traffic Forecasting Report, there is a large forecast reduction in traffic on the B1140. This location is not shown in the report plan so the forecast AADTs have been extracted from the traffic model and are set out in the Table below. This shows that NDR would substantially reduce traffic on the B1140.

Annual Average Daily Traffic	Without NDR	With NDR
2017	8900	4200
2032	11200	4800

Representation

The Postwick Hub is a poorly designed, over-specified and, in our view, unnecessary white elephant which due to its complication and extra mileage will actually deter traffic from using the NDR.

Applicant's comment

- 1.45.11. Refer to Para 1.26.1 and 1.26.3 above.

Representation

The money should be spent improving elsewhere on A47.

Applicant's comment

1.45.12. Refer to Para 1.25.4 above.

Representation

Local heavy goods vehicles will continue to use the B1140 through Salhouse, particularly during the "beet season".

Applicant's comment

1.45.13. NCC has a Route Hierarchy network which classifies roads according to their function and level of use. This was developed following assessments of roads and public consultations during the 1990s and early 2000s. This had designated the route between Wroxham Road and Salhouse Road through Salhouse as a Main Distributor Route and classified as a B road. Roads with this designation are generally identified as being a distributor of local through traffic. However, as with any major scheme such as the NDR, the Route Hierarchy will be reviewed following NDR implementation (as part of the County Council's general duties as local highway authority) and this review would include the designation of the B1140 through Salhouse.

Representation

We have concerns regarding the safe and easy ability for crossing the NDR by cyclists, mobility vehicles, animals and pedestrians.

Applicant's comment

- 1.45.14. During the April/May/June 2012 public consultations NCC had various requests for improved walking and cycling facilities as part of the proposals for the NDR. As a result a strategy was developed to consider and prioritise these consultation requests. The strategy published as part of the February/March 2013 public consultations identified a network of routes to link areas that generate NMU's (such as villages, employment areas, future development) with each other, the Norwich Cycle Network and the Marriott's Way. Part of these routes utilised narrow country lanes, roads closed to motor vehicles and existing public rights of way. NCC has prioritised NMU improvements on this network, and these improvements have included new NMU facilities as part of the proposals. Approximately 25 kilometres of new links suitable for use by pedestrians, cyclists and equestrians where permitted would be provided alongside, over, and connecting with, in places, the NDR route, together with improved surfacing provided on some existing rights of way. The scheme includes seven grade separated crossings of the NDR and two grade separated crossings of the A47. Various NMU at grade crossings of NDR and side roads are also proposed. The NMU proposals are shown on the General Arrangement Plans (Document Ref 2.6). NCC has considered requests for cycle improvements and developed a strategy to prioritise these. This included identifying routes that linked communities with Norwich via its agreed Norwich Cycle Network.

1.46. Kim Shearwood – Dated 22 May 2014

Representation

Swathes of countryside will be dissected and ruined for generation to come if the NDR gains approval. The impact on the water systems, climate change and the ecology have not been fully assessed and in some instances not even been addressed.

Applicant's comment

1.46.1. Refer to Para 1.1.9 to 1.1.11 above.

Representation

It will bring with it overdevelopment of land, with the addition of new houses and businesses.

Applicant's comment

1.46.2. Refer to Para 1.7.10 to 1.7.15 above.

Representation

The road does not lead to anywhere, therefore the many radial routes along its path, given that it dissect so many villages, will result in increased traffic problems to these areas.

Applicant's comment

1.46.3. Refer to Para 1.1.4 above.

Representation

The vast sums of money which are being 'diverted' to fund this project should be better spent on maintaining existing highways.

Applicant's comment

- 1.46.4. The County Council cannot switch funding from one budget to another and cannot spend government funding allocated to the NDR on maintaining existing highways.

1.47. Christine Wilson – Dated 20 June 2014

Representation

The NDR does not make economic sense

Applicant's comment

- 1.47.1. Refer to Para 1.7.10 to 1.7.15 above.

Representation

It cannot provide a satisfactory link to Gt Yarmouth because of the inadequate A47 east of the Postwick hub.

Applicant's comment

- 1.47.2. Figure I.4 Vol 3 of the NDR Traffic Forecasting Report (Document Ref. 5.6) and paragraph 7.1.3 in Vol 1 explains the strategic traffic movements in 2012 and in forecasting years of 2017 and 2032 with and without the NDR.
- 1.47.3. With the NDR, the increase in traffic using the A47(T) between Great Yarmouth and Acle (the switching of 1100 AADT in 2017 and 2500 AADT in 2032) represents an increase of 4% in 2017 and 8% in 2032 (site 1).

- 1.47.4. Traffic along the Acle straight is currently very heavy at peak times. The Damgate Marshes Site of Special Scientific Interest (SSSI) is an important site because the summer grazed marshland and the hydrological features that cross the area. The dykes support a range of plants and associated invertebrates. Increased traffic will not impact on the hydrological regime of the area and therefore will not impact on the flora and fauna present. The species present will not be affected by changes to noise, air quality and drainage.

Representation

It will destroy communities, block off roads and lanes, and destroy vast swathes of countryside and farmland.

Applicant's comment

1.47.5. Refer to Para 1.1.9 to 1.1.11 above.

1.47.6. Refer to Para 1.2.14 to 1.2.15 above.

Representation

It would be better to spend the cost of the NDR on a light rail link from Acle through to the UEA, NRP and hospital.

Applicant's comment

1.47.7. Refer to Para 1.17.4 to 1.17.12 above.

1.48. Andrew Wilson – Dated 9 June 2014

Representation

How do you expect the minor roads through the villages including Costessey to cope with the increased traffic that the NDR will cause.

Applicant's comment

1.48.1. Refer to Para 1.9.5 to 1.9.8 above.

1.49. Sally Wright – Dated 28 June 2014

Representation

My concern is that the NDR will create an increase in traffic flow down The Street in Taverham.

Applicant's comment

1.49.1. Refer to Para 1.9.5 to 1.9.8 above.

1.50. Melody Wright – Dated 8 June 2014

Representation

I simply do not think the huge cost of such a road is acceptable, when the county cannot afford to keep present roads free of potholes.

Applicant's comment

1.50.1. Refer to Para 1.46.4 above.

Representation

The NDR will encourage the use of cars and spoil the charm of Norfolk

Applicant's comment

- 1.50.2. Refer to Para 1.1.4 above.
- 1.50.3. Refer to Para 1.1.9 to 1.1.11 above.

1.51. Wroxham Parish Council - Daphne Wyatt - Dated 30 June 2014

Representation

It seems to be a general view amongst a large number of our residents that there is little justification for building the NDR, unless to facilitate the creation of new housing development.

Applicant's comment

- 1.51.1. The applicant has agreed a SOCG with Wroxham Parish Council refer to NCC/EX/6
- 1.51.2. Refer to Para 1.7.10 to 1.7.15 above.

Representation

We are very concerned at the number of roundabouts proposed over the length of the route. In particular we are concerned at the close proximity of roundabouts at the B1150 North Walsham Road; the A1151 Wroxham Road; the B1140 Salhouse Road and the Plumstead Road.

Applicant's comment

- 1.51.3. The NDR is a distributor road designed to address existing overcapacity issues in the north of Norwich and enable the implementation of the full range of sustainable transport measures that comprise NATS. To function as such it requires junctions with all the main radial routes to provide the connectivity to distribute traffic movements. The junction designs are the best possible balance between environmental impact and relieving the existing network whilst ensuring acceptable conditions on the highway network. Operational assessments of these junctions are contained in Chapter 8.3 and 8.4 of the Transport Assessment (Document Ref 5.5).

Representation

It is well known to your Department at County HQ of the serious traffic problems that already exist in Wroxham and Hoveton consequent on the decision to not build a by pass in 1995.

Applicant's comment

- 1.51.4. Traffic levels are predicted to increase in Wroxham and Hoveton over time due to general growth in trips and population increase, as they have done since 1995. However, the predicted traffic levels at the bridge over the river are likely to be very similar with or without an NDR. That is to say Wroxham is beyond the influence of the NDR.

Representation

With new houses being built, or planned, in Hoveton and Wroxham, together with those planned in Rackheath, the A1151 will be seriously overburdened during busy periods. We strongly believe that the proposed A1151 roundabout should be replaced with a bridging arrangement either under or over the NDR.

Applicant's comment

- 1.51.5. NCC considers that the adopted JCS, which outlines the level of housing development in the Greater Norwich Area, and the process for its development has been properly tested through the local plan process. Most recently, the proposals for growth in the Broadland part of the Norwich Policy Area were the subject of examination in public in 2013.
- 1.51.6. NCC's assessment of the Wroxham Roundabout junction shows that the junction would operate within its desirable capacity in 2017 and below its theoretical capacity in 2032. Whilst it is predicted to exceed its desirable capacity in 2032, NCC considers that the delay is reasonable and the queues can be accommodated safely. Chapter 8 of the Transport Assessment (Document Ref 5.5) contains the assessment of this junction.

1.52. Marc Allen - Published 3 July 2014

Representation

The NDR will make traffic worse not better. A road built so far out will not seriously affect traffic within the City, but it will create a lot more traffic on the radial roads that connect to it.

Applicant's comment

1.52.1. Refer to Para 1.1.4 above.

Representation

Countryside and agricultural land will be lost.

Applicant's comment

1.52.2. Refer to Para 1.1.9 to 1.1.11 above.

1.52.3. Refer to Para 1.2.14 to 1.2.15 above.

Representation

The plans for both the NDR and for Postwick Hub have never been properly tested against alternatives, although both local campaigners and developers have called for alternatives. The NDR-centred transport policy, promoted by Norfolk County Council, will lead to greater vehicle use, greater journeys and greater congestion that will prevent any future development of a transport strategy that integrates sustainable modes and modal shift.

Applicant's comment

1.52.4. Refer to Para 1.4.6 to 1.4.9 above.

Representation

From the start, the road would generate extra CO2 emissions, which is not consistent with national government policies.

Applicant's comment

1.52.5. Refer to Para 1.17.13 above.

Representation

No consideration has been given to the flood risk.

Applicant's comment

1.52.6. Refer to Para 1.18.6 above.

1.53. Anthony Rossi - Dated 3 July 2014

Representation

NCC have lost evidence and are unable to provide an explanation.

Applicant's comment

1.53.1. Refer to Para 1.7.4 above.

Representation

NCC has made a (premature?) start on the so-called 'Postwick Hub' as if they consider approval of the NDDR a foregone conclusion.

Applicant's comment

1.53.2. Refer to Para 1.2.7 to 1.2.8 above.

1.54. Michael Rayner – Published 3 July 2014

Representation

With the NDR in place the north eastern side of Hellesdon will become a rat run from the airport direction.

Applicant's comment

1.54.1. Refer to Para 1.1.4 above.

1.55. Andrew Boswell on behalf of Norwich Green Party – Dated 3 July 2014

Representation

Please can I refer you to the Joint Written Representation to the Planning Inspectorate from CPRE Norfolk, Norwich Green Party, Norfolk and Norwich Transport Action Group (NNTAG), Stop Norwich Urbanisation (SNUB) and Hockering Parish Council.

Applicant's comment

1.55.1. Refer to NCC/EX/15 - Applicant's comments on joint Written Representation from CPRE, Green Party, NNTAG, SNUB and Hockering Parish Council.

1.56. John Woods - Dated June 2014

Representation

A modern tramway for Norwich would be a better solution than the NDR

Applicant's comment

1.56.1. Refer to Para 1.17.4 to 1.17.12 above.

1.57. BJ and RV Plant – Dated 23 June 2014

Representation

The NDR will adversely affect Taverham and the surrounding neighbourhood, with even more rat run traffic than we already suffer from the Southern By-pass.

Applicant's comment

1.57.1. Refer to Para 1.1.4 above.

Representation

Instead of joining up with the A47 the NDR ends up on the A1067 Fakenham road

Applicant's comment

1.57.2. Refer to Para 1.1.1 to 1.1.3 above.

Representation

The NDR is a road consisting of 9 roundabouts which is going to create hold ups morning & evening and all other peak times for traffic trying to join or leave the NDR.

Applicant's comment

1.57.3. Refer to Para 1.51.3 above.

Appendix A



Joint Core Strategy Habitats Regulation Assessment

Water Resource Availability Study
Greater Norwich – Addendum to Habitats
Regulations Assessment to Consider Impact of
Water Abstraction to 2015

June 2012

Greater Norwich Development Partnership

Joint Core Strategy Habitats Regulation Assessment

Water Resource Availability Study
Greater Norwich – Addendum to Habitats
Regulations Assessment to Consider Impact
of Water Abstraction to 2015
June 2012

Greater Norwich Development Partnership

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Issue and revision record

Revision	Date	Originator	Checker	Approver	Description
A	01/09/2010	AA Akindiji Peter Ede	Emma Waterhouse	Gerry Kelly	First Issue
B	15/09/2010	Peter Ede	Mark Johnston	Gerry Kelly	Revisions following discussions with Client
C	13/10/2010	Peter Ede	Mark Johnston	Mark Frith	Revisions following meeting with Client/EA, and meeting with Anglian Water
D		Peter Ede	Mark Johnston	Mark Frith	Revisions following further discussions with Client and Anglian Water
E	31/01/2012	Roger Burroughs (Broadland District Council) Peter Ede	Jackie Fookes	Mark Frith	Revisions following discussion with Anglian Water, Natural England and the Environment Agency
F	18/06/2012	Peter Ede	Jackie Fookes	Mark Frith	Minor revisions following further discussions.
G	23/06/2012	Peter Ede	Jackie Fookes	Mark Frith	Final



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1. Introduction

1.1 Background

Mott MacDonald has been commissioned by the Greater Norwich Development Partnership to undertake additional work to supplement the Habitats Regulation Assessment (HRA) produced for the joint core strategy for Broadland, Norwich and South Norfolk. This additional work assesses the potential effects of the assumptions in the Joint Core Strategy (JCA) for Broadland, Norwich and South Norfolk about development likely to happen within the current Anglian Water Asset Management Plan period. It focuses solely on the availability of potable water to serve this short term need without infringing the Habitats Regulations.

This study is a follow up to previous assessments undertaken by Mott MacDonald (Task 1 and Task 2 Appropriate Assessments) and will address identified uncertainties in available water resources within the Greater Norwich area. The uncertainties addressed in this study are specifically related to abstractions within the River Wensum Special Area of Conservation (SAC), in particular at the Costessey abstraction point.

It is believed that the abstraction of water at Costessey is impacting negatively on the lower reaches of the River Wensum SAC. To address this, the Environment Agency (EA) undertook a Review of Consents (RoC) for all licenses within the Wensum hydrometric catchment with the aim of altering the amount of water abstracted to reduce impacts on the River Wensum SAC. The results of this are summarised in paragraph 2.2.1.

The aim of this study is to establish whether existing licensed sources of water in the Greater Norwich area, with particular emphasis to the Wensum hydrometric catchment and SAC, can be used to meet development requirements in the immediate future up to 2015. In light of the conclusion of the RoC that existing levels of licensed abstraction are considered to be having an adverse effect on the integrity of the River Wensum SAC and that changes in the short term to public water supply arrangements are needed to remove this impact, it is also necessary to consider whether development needs could be met without fully utilising currently licensed abstraction. Long term measures will be assessed by Anglian Water Services (AWS) through future Asset Management Plan periods and are not included in this study. This will involve specific assessment under the Habitats Regulations.

The objectives of this study are to:

- Look at existing licensed abstractions particularly at Costessey and Thorpe St Andrew;
- Assess if fully utilising Thorpe St Andrew licensed abstraction combined with actual current abstraction at Costessey would cater for developmental needs in the short term. This should also be considered in light of the EA RoC;
- Assess if the above would avoid damage to the River Wensum SAC and thus comply with the Habitats Regulations or whether a reduction in existing levels of abstraction at Costessey would be compatible with an adequate level of supply of potable water to meet short term development needs.
- Verify that abstraction currently licensed at Thorpe St Andrew has been subject to an appropriate assessment and been through the RoC; and
- Quantify any resources identified which may be available for development, and relate to an equivalent in terms of dwellings.

The scope for the study is reproduced in Appendix A.

1.2 Sources of Information

Information used in undertaking this assessment was obtained from the following sources:

- Anglian Water Services (AWS) provided information on deployable outputs and forecast demand for the period up to 2015 from their Water Resource Management Plan (WRMP), and records of abstraction at Costessey;
- The Environment Agency provided abstraction licenses, hydrometric data on the River Wensum, location of borehole sampling points, groundwater data, discharge consents, the River Wensum Review of Consents SAC document and the Guidance Note on Growth and Water in Greater Norwich;
- Conclusions of the Environment Agency's RoC and Site Action Plans;
- Habitats Regulation Assessment: Joint Core Strategy for Broadland, Norwich and South Norfolk, Mott MacDonald February 2010;
- Evidence provided by AWS to the Examination in Public into the Joint Core Strategy for Broadland, Norwich and South Norfolk in November, 2010, and subsequent clarifying note (the latter reproduced as Appendix B);
- Statement of common understanding on water resources - Anglian Water, Environment Agency, Natural England dated 3rd November, 2010.

Other information used in the assessment was obtained from the Greater Norwich Development Partnership website (<http://www.gndp.org.uk/>), including the following:

- Joint Core Strategy for Broadland Norwich and South Norfolk: Proposed Submission Document November 2009; and
- Greater Norwich Development Partnership: Stage 2b Water Cycle Study, Technical Report Final, February 2010.

In addition to discussions with AWS and the EA about data, we contacted AWS to ascertain their position with regard to potential alternative sources of water that might allow abstraction from Costessey to be reduced. We also discussed relevant aspects of the work with Natural England.

2. Assessment

2.1 Water Resources

2.1.1 Costessey Surface Water Abstraction

Details of surface water abstraction from the River Wensum at Costessey (Licence No: 7/34/11/*S/0399) are presented in Table 2.1. The daily peak refers to abstractions from Costessey Pits; the licence for abstraction from the river (for input to the Pits) allows up to 120 MI/d, but this is only used for short periods if storage in the Pits has dropped.

Table 2.1: Costessey Abstraction Licence Information

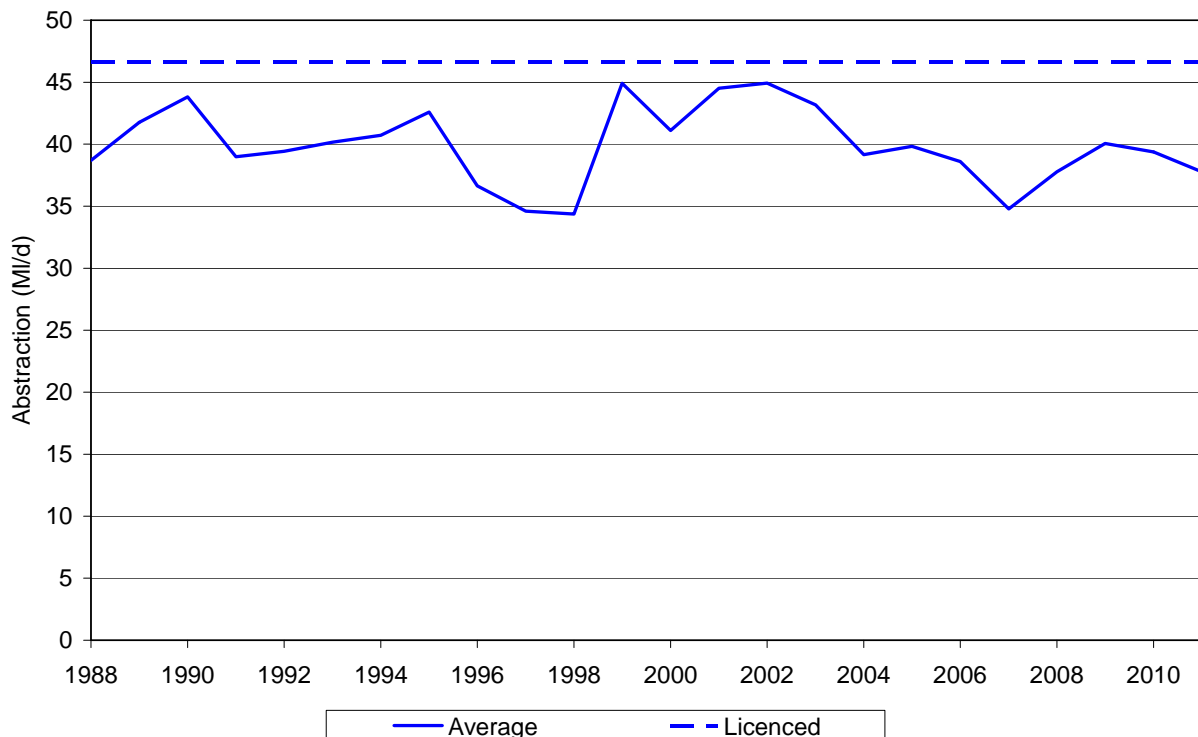
Annual Licence (m ³)	Existing Daily Average Licence (MI/d)	Existing Daily Peak Licence (MI/d)	Actual Average Daily (MI/d)
17 000 000	46.6	57.7	39.5

SOURCE: Environment Agency Abstraction Licence Database and Anglian Water

The total annual quantity of water licensed for surface water abstraction from the Wensum hydrometric catchment represents an average of 50 MI/d. Comparison with Table 2.1 shows that the existing average daily licensed abstraction at Costessey (46.6 MI/d) represents approximately 93% of the total quantity licensed for surface water abstraction in the River Wensum catchment; the balance is made up of a number of smaller abstractions. Table 2.1 also shows that the actual abstraction is lower than the licensed daily average, by a margin of about 15% (this is based on data for the period 2002-11). However, this apparent scope for increased abstraction is not significant in practice because AWS report that the peak daily licence provides the constraint at Costessey.

The actual abstraction data (Figure 2.1) shows only minor variation in annual abstraction since the Costessey intake was first used in 1988, with the average ranging from about 34 to 45 MI/d. The maximum annual abstraction in the last 8 years is about 40 MI/d.

Figure 2.1: Abstractions from the Wensum at Costessey



Source: Raw data from Anglian Water

2.1.2 Thorpe St Andrew Abstraction

Details of abstraction from boreholes within the Thorpe St Andrew area (Licence No: 7/34/15/*G/0177) are presented in Table 2.2.

Table 2.2: Thorpe St Andrew Abstraction Licence Information

Annual Licence (m ³)	Existing Daily Average Licence (MI/d)	Existing Daily Peak Licence (MI/d)	Actual Average Daily (MI/d)
5 000 000	13.7	22.7	8.4

SOURCE: Environment Agency Abstraction Licence Database and Anglian Water

Table 2.2 shows that the actual average daily abstraction at Thorpe St Andrew is approximately 60% of the average licensed daily amount. Full usage of this headroom would require some additional investment on additional boreholes and pipelines. AWS has planned investment to allow some increased abstraction during future Asset Management Plan (AMP) periods, starting in AMP6 (2015-2020).

The combined average actual abstraction from Costessey and Thorpe St Andrew is about 48 MI/d. There are a few other abstractions but these are very minor by comparison.

2.2 Relevant Reports

2.2.1 Review of Consents

A Stage 3 Appropriate Assessment (EA, 2010) was undertaken for the River Wensum SAC applying targets derived from Natural England's Favourable Condition Tables and Habitats Directive Ecological River Flow (HDERF). The assessment established that "in combination" abstractions presented a high risk to the integrity of European features in the lower reaches of the River Wensum SAC. As such, the SAC in its lower reaches is currently not in a "favourable condition".

In order to restore the SAC to favourable conditions, a Stage 4 Appropriate Assessment was undertaken (EA, August 2010). This involved an appraisal of potential options identified to remove the risk to features in the designated European site.

These options were as follows (reproduced from the EA report):

- Option 1a: Do nothing, hence affirm all licences assessed at stage 3. Take no further action;
- Option 1b: Do Nothing/Affirm all licences subject to Habitats Regulation 50 Review, but use existing Catchment Abstraction Management Strategy (CAMS) licensing policy to reduce abstraction pressure within 3 km radius from Time Limited ('T/L') (i.e. Habitats Regulation 48) licences only by modifying those licences at renewal i.e. rely on Habitats Regulation 51(3) action by the Environment Agency to remove abstraction impact from SAC;
- Option 2: Revoke licence 7/34/11/*S/0399 (Public Water Supply, PWS abstraction licence at Costessey/Heigham);
- Option 3: Modifying licence 7/34/11/*S/0399 (PWS abstraction licence at Costessey/Heigham) to remove adverse effect either by reducing total licensed quantity or by relocation of the surface water intake outside the SAC boundary;
- Option 4: Reduce abstraction impact by modifying licences in combination effect, only;
- Option 5: Reduce abstraction impact by modifying 7/34/11/*S/0399 (PWS abstraction licence at Costessey/Heigham), plus other licences with in combination effect; and
- Option 6; Use the proposed River Wensum Restoration Strategy to mitigate for abstraction related impact.

Option 5 was chosen as the **preferred option**.

'In the first instance, and before 2015, a reduction equivalent to 20 MI/d shall be applied to the total annual licensed quantity to remove the risk to the site in its current condition from fully licensed abstraction' (Environment Agency¹).

The report adds that subsequently there would be further modification to the licence to ensure that required flow standards are met at Hellesdon Mill. The nature of such modification is not detailed, but the required flow standard would be the Habitats Directive Ecological River Flows (HDERF).

Information from the EA RoC suggests that abstractions from Thorpe St Andrew were not included in the list of licenses identified to have an "in combination effect" and scheduled for either revocation or modification. It is therefore concluded that abstractions from Thorpe St Andrew within its licence would not adversely affect the River Wensum SAC. The Thorpe St Andrew source was also reviewed under the RoC for the Broads and Broadland SPA; this RoC identified that changes were required to the Thorpe St Andrew licence. The changes are incorporated in AWS plans and the assessment of the supply/demand balance. The latest AWS position is described in section 2.4.

2.2.2 Statement of common understanding, November, 2010

This statement was jointly agreed by AWS, Natural England and the Environment Agency, and superseded an earlier note published by the Environment Agency². It reflected growing concern that existing licensed levels of abstraction at Costessey were causing an adverse effect on the SAC and set out a joint agreed position to address this.

The proposed reduction in Costessey abstraction of up to 49 MI/d would be achieved progressively over successive business planning cycles as follows:

1. a 20 MI/d reduction by 2015;
2. if required, a further reduction of up to 29 MI/d by 2020 or soon thereafter.

¹ River Wensum SA Site Action Plan Version 5.0 Environment Agency August 2010

² Guidance Note on Growth and Water in Greater Norwich, Environment Agency, August 2010

Given the average and licensed levels of abstraction described in section 2.1.1, the eventual average reduction could not be as great as 49 MI/d because abstractions have never been that high.

AWS agreed to identify its preferred option for the initial reduction by January 2012. It was further agreed that if a solution to deliver a 20MI/d reduction cannot be found then AWS will deliver as much reduction as possible by 2015.

The agreed outcome in the short term was a reduction in the levels of abstraction at Costessey to historic levels, defined as levels of abstraction in 2005. This capping of abstraction would remain until the full RoC was implemented.

Natural England confirmed as part of the statement that this would satisfy their concerns for the interim period.

2.3 Analysis

2.3.1 Costessey Flows

The EA provided a long term flow duration curve, FDC (1960 to 2010) at Costessey Mill gauging station. However, use of this FDC to assess available water resources would be misleading because the abstraction point is upstream of the gauging station. Furthermore, the abstraction point was moved (from downstream of the gauging station) in 1988, so only part of the data used to derive the FDC is representative of current conditions.

In order to address this point, the recorded daily flows for Costessey from 1988 onwards were adjusted by adding actual daily abstraction (data obtained from AWS) to the recorded flows at Costessey Mill gauging station. This is not a fully-naturalised flow because it does not take account of other artificial influences (abstractions and discharges) further upstream. However, such influences are small compared to the Costessey abstraction.

The recorded data is not quite complete – various periods of missing data amount to about two years out of the overall period of 50 years (1961-2010). For these periods' simulated flows from a previous catchment modelling study for AWS were used (with adjustment for abstraction). This reduces the risk of bias in the results if (for example) the missing periods were unusually dry or mostly occurred at a particular time of the year.

Figure 2.2 shows the FDC of part-naturalised flows, “current” flows (based on average abstraction over the past 10 years) and potential flows if the abstraction licence is reduced as proposed in the RoC (this is the first stage reduction, to 20 MI/d below the current annual licence).

Flow duration statistics and the percentage reduction in flows as a result of abstraction at Costessey Mill are presented in Table 2.3. HDERF thresholds for SAC and Site of Special Scientific Interest (SSSI) rivers are presented in Table 2.4.

Figure 2.2: Costessey Mill Flow Duration Curves

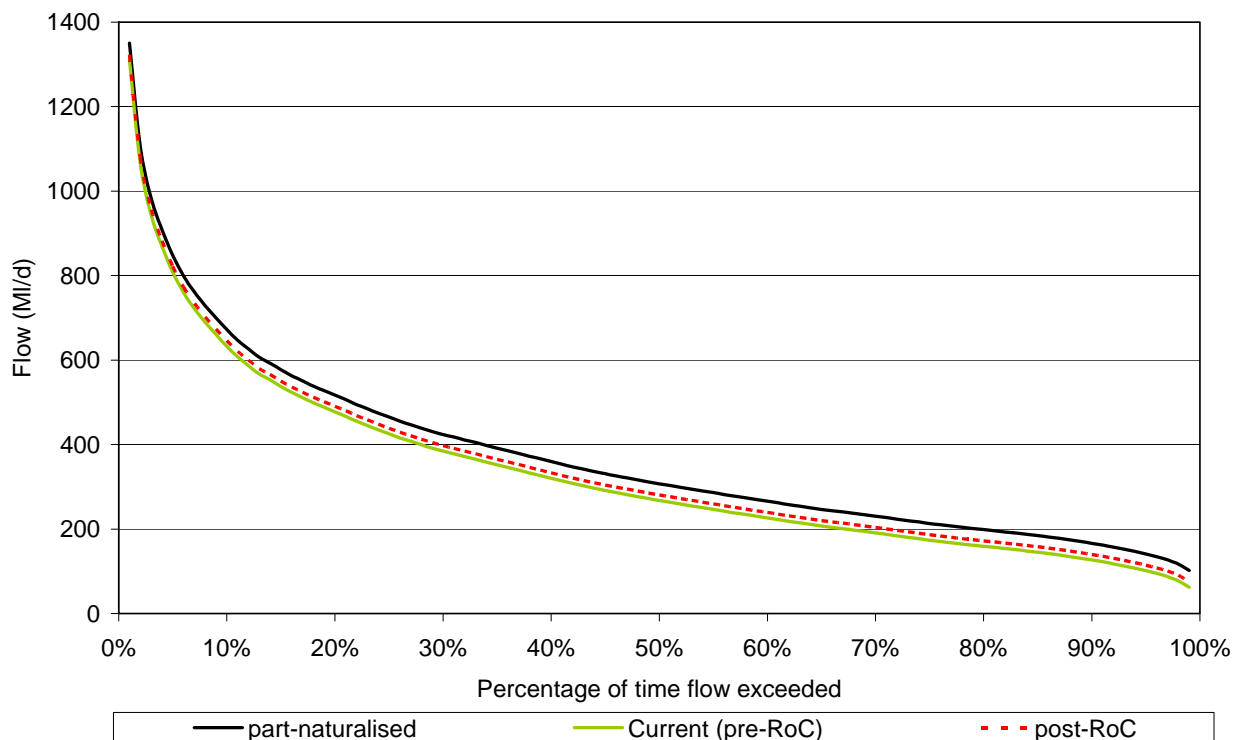


Table 2.3: Costessey Mill Flow Duration Statistics

Percentile	Part-naturalised flow (MI/d)	Expected flow (MI/d) pre-RoC	Expected flow post-RoC	% reduction pre-ROC	% reduction post-ROC
1%	1350	1310	1323	3%	2%
2%	1107	1067	1080	4%	2%
5%	848	809	822	5%	3%
10%	672	633	646	6%	4%
20%	517	478	490	8%	5%
30%	424	384	397	9%	6%
40%	360	320	333	11%	7%
50%	307	267	280	13%	9%
60%	266	226	239	15%	10%
70%	230	191	204	17%	12%
80%	199	159	172	20%	13%
90%	166	127	140	24%	16%
95%	141	101	114	28%	19%
98%	117	77	90	34%	23%
99%	102	62	75	39%	26%

Table 2.4: HDERF Thresholds for SAC/SSSI Rivers

Environmental Weighting Band	HD ERF Maximum Percentage Reduction From Daily Naturalised Flow		
	< Q50	Q50 - Q95	>Q95
High	15%	10%	5 - 10%
Moderate	20%	15%	10 -15%

Table 2.3 shows a reduction of 28% in flows at Q95. This is in excess of the allowable HDERF threshold for SAC rivers assigned an environmental weighting band of high or moderate sensitivity (available information suggests the River Wensum SAC ranges from moderate to high sensitivity. The assessment point at Hellesdon Mill is assigned moderate sensitivity).

Applying the EA RoC to abstractions at Costessey leads to a smaller reduction in naturalised flow (19%), but this is still beyond the maximum allowable limit of a moderately sensitive SAC river. This suggests that there would need to be further reductions in allowable abstractions at Costessey Mill in order to meet HDERF targets (as implied by the comments in the RoC referred to in the penultimate paragraph of section 2.2 above). To meet the maximum 15% reduction at Q95 for moderate sensitivity, the average abstraction would need to be reduced

by a further 5 MI/d. However, it should be stressed that this is based on simplified calculations that do not use a fully-naturalised flow series.

It should be noted that previous EA analysis used estimated flows (from a regional groundwater model) for Hellesdon Mill rather than Costessey, and that the period analysed was 1988-2005. Hellesdon Mill is at the downstream end of the reach of interest; the catchment area is slightly larger (by about 2%), but the EA's work showed that overall there is little change in flow between the two sites. The Wensum SAC quotes naturalised flows for Hellesdon Mill for various points from Q10 to Q99; bearing in mind the different data periods, locations and methods, these agree well with the part-naturalised values in Table 2.3, with differences ranging from -6% to +8%.

2.3.2 Available Water Resource

Fully utilising the Thorpe St Andrew licence (based on Table 2.2) would provide an additional 5.3 MI/d available for abstraction at this point, subject to the required investment at the source and for transmission.

Anglian Water's forecast average occupancy rate for new-build properties is 2.1 people (though recent information from AWS suggests that this may be revised down to 2.04). Current Building Regulations have a water usage standard of 125 l/h/day, but Levels 4 and 5 of the Code for Sustainable Homes indicate reduced figures of 105 and 80 l/h/day respectively. The potential additional abstraction from Thorpe St Andrew could supply from 20000 to 32000 households (Table 2.5). This does not take account of the fact that a proportion of the members of such households would be from the immediate area and therefore already receiving water, possibly from Thorpe St Andrew. This category would include young people currently living with parents, who would hope to move if/when availability of housing improves. The net increase in demand due to 20000 new houses at 125 l/h/d would therefore be less than 5.3 MI/d, but it is difficult to quantify this effect.

Table 2.5: Potential Number of Households Supplied from Thorpe Headroom

Per capita consumption (l/h/d)	Households
125	20000
105	24000
80	32000

2.4 Future Water Requirements for Period up to 2015

Availability and demand data for the period up to 2015 for the Norwich and the Broads Water Resource Zone (WRZ) was provided by AWS and is presented in Table 2.6; information was not available for the Norwich/River Wensum area alone. The information was extracted from the AWS Water Resource Management Plan (WRMP) and is based on the least cost forecast. This shows only minor changes in demand over the period, with an overall increase to 2014/15 of just 1.0%. The availability figures are “Water Available for Use” (WAFU) whilst the demand figure is the distribution input which includes allowance for leakage. The figures include allowance for the effect of planned investments over the period.

Table 2.6: Anglian Water Demand Forecast

Year	2010-11	2011-12	2012-13	2013-14	2014-15
Water Available for Use (WAFU)					
	MI/d	MI/d	MI/d	MI/d	MI/d
Average	78.94	78.83	78.65	78.39	78.09
Peak	109.86	109.71	109.46	109.12	108.71
Demand (Distribution Input)					
	MI/d	MI/d	MI/d	MI/d	MI/d
Average	65.02	64.94	65.03	65.30	65.64
Peak	83.03	82.92	82.94	83.17	83.50

SOURCE: Anglian Water , Water Resource Management Plan

The submitted JCS housing trajectory³ up to 2015 is presented in Table 2.7. The water demand figures are based on the same assumptions as those used for Table 2.5 above.

³ Joint Core Strategy for Broadland Norwich and South Norfolk: Proposed Submission Document November 2009

Table 2.7: Joint Core Strategy Housing Trajectory

Period	Total Planned Completions	Projected Occupancy (Persons)	Total Water Demand (MI/day)			
			<i>per capita consumption (l/h/d)</i>			
			125	105	80	
2010/11	1593	3345	0.42	0.35	0.27	
2011/12	2075	4358	0.54	0.46	0.35	
2012/13	2352	4939	0.62	0.52	0.40	
2013/14	1899	3988	0.50	0.42	0.32	
2014/15	2439	5122	0.64	0.54	0.41	
TOTAL	10358	21752	2.72	2.28	1.74	
			Usage of Thorpe St Andrew headroom	51%	43%	33%

As described above, it is important to note that some of the total demand for new houses may be cancelled out by reductions elsewhere.

The AWS demand figures take account of all relevant projections, including population, per capita demand, non-household demand and leakage, and in particular including the JCS housing trajectory. These show that the overall change over the period to 2015 is insignificant. Therefore Anglian Water is in a position to meet demands over this period without the need for any increase in abstraction at Costessey.

However, the agreement of common understanding dated 3 November, 2010 required an immediate cap in abstractions at Costessey to historic levels and this position was confirmed at the public examination into the joint core strategy. This cap represents a decrease in supply of 6 MI/d. AWS reaffirmed its commitment to reducing abstraction in a memo dated 17th November 2010 and has further confirmed this in an email dated 18th May 2012. The memo and the email are reproduced in Appendix B.

The draft Norwich Joint Core Strategy (JCS) document sets out an aim to build approximately 22,500 dwellings between 2010 and 2020. Natural England have advised that any proposals coming forward ahead of the implementation of the RoC solution for the River Wensum SAC should not exacerbate the adverse affect on the Wensum by involving increased abstraction from Costessey.

AWS committed to undertake an assessment into the level of growth that could be accommodated by existing sources over AMP5 with the inclusion of the reduced abstraction at Costessey. The assessment is based on outputs from the AWS Water Resources Management Plan (WRMP) final planning scenario (WRP4) for the Norwich and the

Broads WRZ, February 2010 and is summarised in Table 2.8 below. It includes all relevant sources and not just that at Thorpe St Andrew.

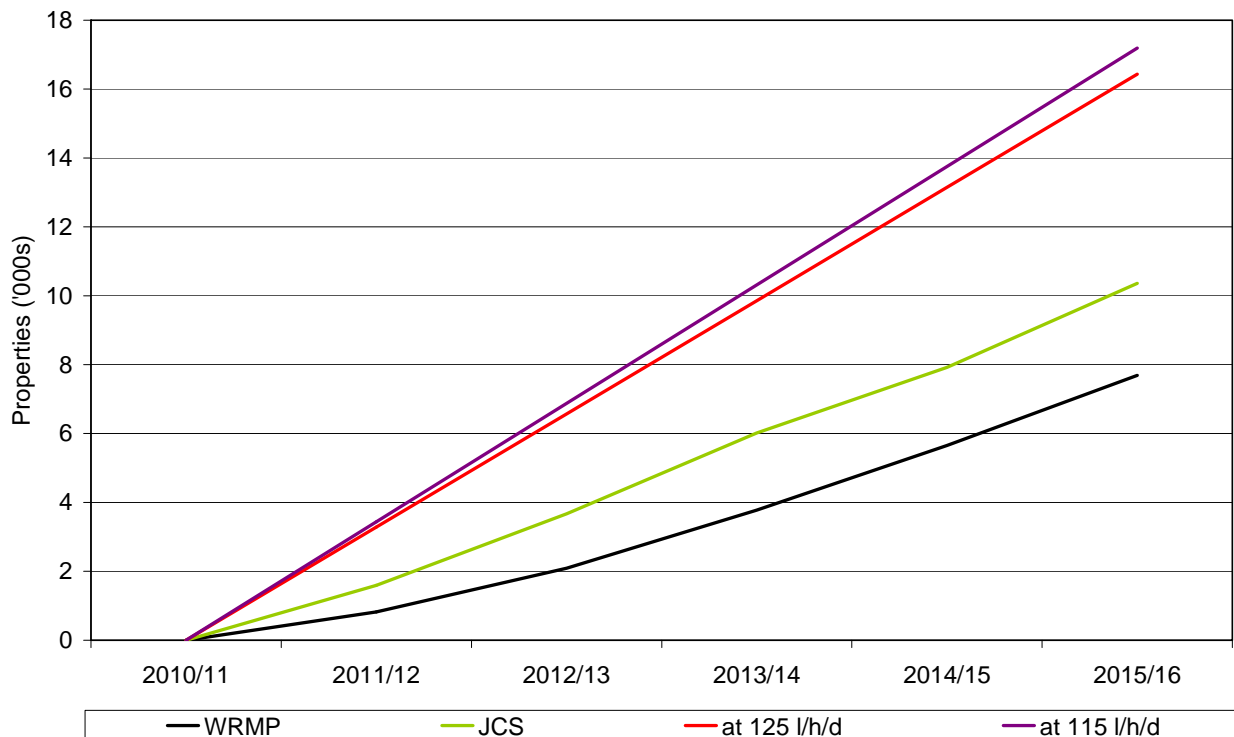
Table 2.8: Norwich & The Broads WRZ Revised Supply/Demand Balance and Build Capacities

Description	Units	2010/11	2011/12	2012/13	2013/14	2014/15
Norwich & The Broads Supply/demand balance (WRMP)	MI/d	10.21	10.11	9.72	9.02	8.22
Revised S/D balance (cap on abstraction from Costessey)	MI/d	4.22	4.12	3.73	3.03	2.23
Additional build capacity at 125 l/h/d	'000s					8.74
Additional build capacity at 115 l/h/d	'000s					9.50
Cumulative new properties included in WRMP	'000s	0.82	2.09	3.78	5.65	7.69
Total build capacity at 125 l/h/d	'000s					16.43
Total build capacity at 115 l/h/d	'000s					17.19

With the revised supply demand balance of 2.23 MI/d, AWS would be able to meet their own previously assumed growth forecast of 7,690 properties and also accommodate an additional 8,740 properties (based on 125l/h/d consumption) or 9,500 properties (based on 115 l/h/d consumption) by 2015. At this level of growth they can maintain service commitments to customers and the supply demand balance remains in surplus.

By annualising the total build capacities that could be supported under the two consumption rates AWS would be able to fully support the property growth forecast in the Joint Core Strategy as shown in Figure 2.3 below.

Figure 2.3: Potentially-supported Properties in Norwich & The Broads



Source: Raw data from AWS

The demand forecast assumes that the population served will increase between 2010 and 2035, having taken into account the current economic downturn and the expected recovery from it. In the WRMP AWS also assumed an overall decline in measured water consumption to 130l/h/d by 2030. These growth forecasts have been scrutinised and accepted by the regulators.

The calculations of potential additional household properties that could be served (i.e. in addition to those included in the WRMP) do not include any consideration of non-household consumption that might be associated with the additional household properties (e.g. additional employment in the area). However, such associated consumption is likely to be small in comparison to household consumption. In the WRMP, AWS forecast that measured non-household consumption in the Norwich and the Broads RZ will decline from 9.6 MI/d to 7.1 MI/d over the period between 2007-08 and 2034-35. Unmeasured non-household consumption is forecast to remain steady at 0.61 MI/d. This

means that non-household consumption is in the region of 10% of total consumption. AWS reports that it currently has no information to suggest that there will be large increases/decreases in non-household demand (Moncaster, 2012).

On the basis of this assessment, the forecast level of growth up to 2015 outlined in the WRMP would be achievable under the revised abstractions from Costessey, and the JCS housing projections could also be supported without increasing the adverse effect on the River Wensum SAC as a consequence of maintaining potable water supplies.

3. Summary and Conclusions

Regulation 61 (6) of the Habitats Regulations requires that in forming an opinion as to whether a proposal could adversely affect the integrity of the European site, consideration must be given the manner in which it is proposed to be carried out, or to any conditions or restrictions that might be applied in order to avoid adverse effect.

There is significant scope to increase abstraction within the existing Thorpe St Andrew licence, from a recent average of 8.4 MI/d to the maximum licensed equivalent of 13.7 MI/d at the Thorpe St Andrew borehole. This would require investment in boreholes and associated infrastructure; Anglian Water has planned investment at Thorpe St Andrew for the AMP6 period (2015-2020). The abstraction has been subject to an appropriate assessment and has been through the Review of Consents process. There is no indication that increased abstraction at Thorpe St Andrew would cause adverse impact on the River Wensum SAC. This was the area specifically referred to in the Scope; however, there is also no indication that there would be any adverse impact on the Broads SAC or Broadland SPA.

The latest supply/demand balance forecasts produced by Anglian Water Services indicate that water resources are sufficient to provide for the levels of growth anticipated in the Joint Core Strategy up to 2015 and immediately beyond, with actual abstraction at Costessey limited to historic levels. It is agreed by all parties that this will prevent the SAC from deteriorating any further as a result of abstraction pressure.

In the longer term, additional resources will need to be made available in succeeding Asset Management Plan periods. Anglian Water Services is already in discussions with the Environment Agency about source development to enable them to reduce abstraction at Costessey without jeopardising their ability to meet demands and have agreed to identify their preferred approach in 2012. The longer term solution may require its own assessment under the Habitats Regulations.

The conclusion of this study is that in the period to 2015, the levels of growth anticipated in the Joint Core Strategy can be provided with potable water without further detriment to any areas protected under the Habitats Regulations.

Growth proposals which prevent or delay implementation of a solution to remove adverse effect on the river Wensum SAC from licensed abstraction would not meet the requirements of the Habitats Regulations and would not be consistent with policy 1 of the JCS.

4. References

Habitats Regulation Assessment: Joint Core Strategy for Broadland, Norwich and South Norfolk, Mott MacDonald February 2010,

Joint Core Strategy for Broadland Norwich and South Norfolk: Proposed Submission Document November 2009 (Appendix 6)

Greater Norwich Development Partnership: Stage 2b Water Cycle Study, Technical Report-Final, Scott Wilson February 2010

Guide to Information from National Abstraction Licensing Database (NALD) Version 2.0 Environment Agency May 2006

River Wensum SAC - Site Action Plan Version 5.0 (redacted) Environment Agency, August 2010

Guidance Note on Growth and Water in Greater Norwich, Environment Agency, August 2010.

Statement of common understanding on water resources. Anglian Water, Environment Agency, Natural England – 3 November 2010

Clarification by Anglian Water Services of their evidence to the public examination into the joint core strategy for Broadland, Norwich and South Norfolk - 17 November 2010

Monaster, Steve (2012). Email to Peter Ede, Mott MacDonald, 27 Jan 2012.

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Appendix A. Scope for Study

The scope of the study in terms of its time horizon is from the present to the beginning of the next Asset Management Plan period in 2015.

The study should look at existing licensed abstraction capacity in the area close to Norwich, and in particular at licensed abstractions at Thorpe St Andrew. In particular it should consider whether fully utilizing the Thorpe St Andrew licensed abstraction to cater for development in the short term, combined with an undertaking by AWS not to increase actual abstraction at Costessey, even within existing licenses, would avoid damage to the River Wensum SAC, and thus comply with the Habitats Regulations.

In doing so, the study should verify that the abstraction currently licensed at Thorpe has been subject to an appropriate assessment and been through the review of consents process and concluded as having no adverse effect on European sites. It should also take into account any relevant requirements of the published review of consents, and any measures included in Anglian Water's Asset Management Plan covering the period to 2015.

The study should include relevant consultation with Natural England, the Environment Agency and Anglian Water Services as well as the client.

The study should quantify any resources identified which may be available for development in terms of megalitres per day, and express this as an equivalent in terms of dwelling equivalents at differing levels of the code for sustainable homes. It should relate these estimates to the published housing trajectory in the submitted Joint Core Strategy and assess the extent of any additional capacity in the period to 2015.

Appendix B. Anglian Water Memorandum

This appendix contains a memorandum provided by Anglian Water to clarify its commitment to reduce abstraction as part of the interim 'agreement of common understanding'. It is followed by the text of an email from Anglian Water that states that AW are still committed to restricting abstraction at Costessey to historic levels until delivery of the interim solution.

to: Iain Page; Helen Ward; Mike Burrell; Sue Bull; Mike Cook; Steve Moncaster
from: Jayne Owen
copy:
our ref: GNDP EIP
your ref: AW
subject: GNDP EIP
date: 17 November 2010

Following Anglian Water's (AW) representation at the Greater Norwich Development Partnership Examination in Public on the 11th November (Matter 8) we feel that our explanation regarding the 20MI/d sustainability reduction on the Wensum and our commitment to reducing abstraction at Costessey to historic levels (6MI/d decrease) as part of the interim 'agreement of common understanding' requires further clarification:

The Environment Agency (EA) as part of its Review of Consents (RoC) under the Habitats Directive identified the River Wensum Special Area for Conservation (SAC) as presently having unfavourable conditions in relation to water quality, abstraction, siltation and physical modifications to the channel. The RoC Stage 3 appropriate assessment identified that the river reach between the Costessey Pits Intake and the limit of the SAC at Hellesdon Mill does not achieve the Habitats Directive Environmental Required Flow (HDERF) and fully licensed AW abstraction at Costessey has adverse effects.

Consequently, the EA identified that a significant reduction in flows, especially in the lower reaches are required for the site to meet its environmental objectives. This includes the need for a reduction in the AW Costessey abstraction of up to 49 million litres per day (MI/d) to be achieved progressively over successive business planning cycles. This would involve an initial 20MI/d reduction in the short term.

We are currently appraising the options available to achieve the initial reduction of 20 MI/d and have committed to outlining our preferred option by January 2012. Until the solution is in place we have agreed to prevent any further deterioration of the River Wensum SAC by restricting the level of abstraction at Costessey to historic levels. This is defined as the annual average abstraction in 2005 which leads to a 6 MI/d reduction in the Norwich and the Broads (NTB) WRZ.

The draft Norwich Joint Core Strategy (JCS) document sets out an aim to build approximately 22,500 households between 2010 and 2020. As part of the consultation process for this strategy Natural England have advised that any proposals coming forward ahead of the adoption of the JCS and the implementation of the RoC solution for the River Wensum SAC should not act to exacerbate the adverse affect on the Wensum by involving increased abstraction from Costessey.

As part of our 'common understanding agreement' with the Environment Agency and Natural England we committed to undertake an assessment into the level of growth that could be accommodated by our existing sources over AMP5 with the inclusion of the reduced abstraction at Costessey to historic levels (2005). Our assessment is based on outputs from our Water Resources Management Plan (WRMP) final planning scenario (WRP4) for the Norwich and the Broads WRZ, February 2010 and is summarised below:

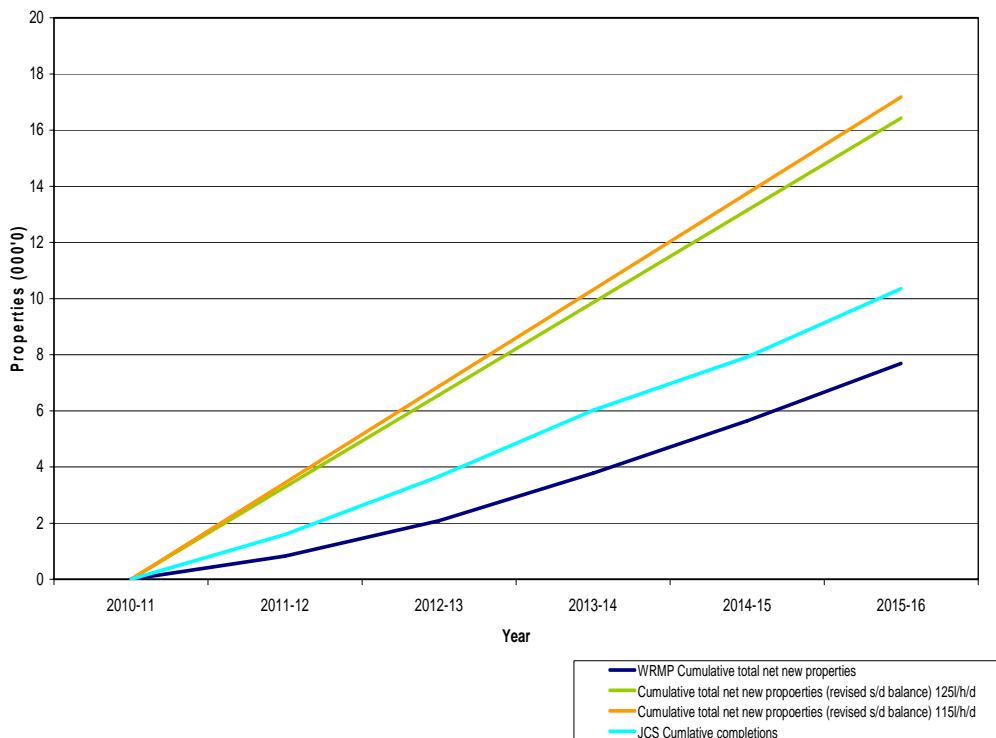
Description	Units	2010/11	2011/12	2012/13	2013/14	2014/15
Norwich & The Broads (NTB) WRMP supply demand balance	MI/d	10.21	10.11	9.72	9.02	8.22
Revised supply demand balance (capped abstraction from Costessey)	MI/d	4.22	4.12	3.73	3.03	2.23
Cumulative new Properties included in WRMP (WRP table 4)	000's	0.82	2.09	3.78	5.65	7.69
Additional build capacity at 125 l/h/d (using the revised supply demand surplus)						8.74
Additional build capacity at 115 l/h/d (using the revised supply demand surplus)						9.50
Total build capacity at 125 l/h/d (including WRP forecast)	000's					16.43
Total build capacity at 115 l/h/d (including WRP forecast)	000's					17.19

Norwich and The Broads WRZ revised supply demand balance and build capacities

With the revised supply demand balance of 2.23 MI/d we would be able to meet our growth forecasts of 7,690 properties and also accommodate an additional 8,740 properties (based on 125l/h/d consumption) or 9,500 properties (based on 115 l/h/d consumption) by 2015. At this level of growth we are able to maintain our levels of service commitments to our customers and our supply demand balance remains in surplus.

By annualising the total build capacities that could be supported under the two consumption rates we would be able to fully support the property growth forecast in the Joint core strategy as shown in the graph below.

Properties that could be supported up to 2015 in the Norwich and the Broads WRZ with abstractions reduced to 86% from Costessey



Our demand forecast assumes that the population served will increase between 2010 and 2035, having taken into account the current economic downturn and the expected recovery from it. In our WRMP we also assumed an overall decline in measured water consumption to 130l/h/d by 2030. These growth forecasts have been scrutinised and accepted by our regulators.

On the basis of this assessment, the forecast level of growth outlined in our WRMP would be achievable under the revised abstractions from Costessey and we are confident that the JCS housing projections could also be supported.

From: Bull Sue [mailto:sBull@anglianwater.co.uk]
Sent: 18 May 2012 17:16
To: Roger Burroughs
Subject: FW: JCS HRA Addendum

Dear Roger

The response from Jessica Bowden (EA) appears to raise two issues:

1. Whether or not AW are still committed to the terms of the Joint Position Statement issued in November 2010. In particular that we will restrict abstraction to historic levels pending delivery of the interim solution to deliver a 20 MI/d sustainability reduction by 2015
2. That we are putting into place arrangements for achieving a 20 MI/d reduction in abstraction at Costessey by 2015.

AW are still committed to restricting abstraction at Costessey to historic levels until delivery of our interim solution. This solution (a temporary transfer of abstraction from Costessey to Heigham) is in the process of being delivered and details are given in the report that we have recently issued to the EA.

I hope this helps to clarify.

Regards

Sue Bull
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Asset Management
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