

A509 Isham Bypass

Public Inquiry

30th October 2007

Air Quality and Noise Proof of Evidence
- Summary

of Tony Fletcher BSc (Hons), MICE
on behalf of Northamptonshire County
Council

Deposit Document NAA 02



Northamptonshire County Council
County Hall
Northampton
NN1 1AW

September 2007

A509 Isham Bypass

Air Quality and Noise Proof of Evidence - Summary of

Tony Fletcher BSc (Hons), MICE

JOB NUMBER: 5051674.013		DOC REF: Deposit Document NAA 02			
01	Initial Draft for Review	AT Fletcher	D Ellwood	H Smith	26/09/07
Revision	Purpose Description	Originated	Reviewed	Authorised	Date
ATKINS					

Contents

<i>Section</i>	<i>Page</i>
1. Introduction	1-0
Northamptonshire County Council's Representative	1-0
Route	1-0
Scope of Evidence to this Inquiry	1-0
2. Air Quality Summary	2-0
Construction Phase	2-0
Operation Phase	2-0
3. Noise Summary	3-0
Construction Phase	3-0
Operation Phase	3-0
4. Vibration Summary	4-0
Construction Phase	4-0
5. Conclusion	5-0

This document is copyright and should not be copied in whole or in part by any means other than with the approval of Atkins Limited. Any unauthorised user of the document shall be responsible for all liabilities arising out of such use.

1. INTRODUCTION

NORTHAMPTONSHIRE COUNTY COUNCIL'S REPRESENTATIVE

- 1.1 My name is Tony Fletcher and I am a Chartered Engineer and head of the Development Services Department of Design Solutions of Atkins Limited in Exeter. I have some 25 years experience in Civil and Environmental Engineering. I have been involved in the proposed A509 Isham Bypass since November 2002.

ROUTE

- 1.2 The proposed bypass would relieve Isham of high volumes of through traffic, but would introduce traffic in the vicinity of properties to the west of Isham. These changes to traffic will have implications for the local air quality and noise environment for local residents.

SCOPE OF EVIDENCE TO THIS INQUIRY

- 1.3 This summary presents the findings of my assessment on the environmental impact of the proposed bypass with regards to Air and Noise pollution and the impact that it will have on local residents.

2. AIR QUALITY SUMMARY

CONSTRUCTION PHASE

Impact

- 2.1 During the construction works for the A509 Isham Bypass air quality may be affected by dust raising activities and by emissions from additional construction vehicles, both on site and travelling to and from the site. The levels of dust and emissions generated will be dependant upon the construction methods and plant that are actually used.

Mitigation

- 2.2 Mitigation measures to control dust during construction of the proposed A509 Isham Bypass would be agreed with the Local Borough Councils prior to the commencement of works and would be specified in contract documentation. These measures would include dampening down of surfaces prior to working on them; minimising drop heights; ensuring appropriate storage of dusty materials; ensuring site roads are in suitable condition; implementing low speed limits for vehicles on site; sheeting vehicles carrying dusty materials; cleaning vehicles before they leave site and seeding long-term stockpiles and final landscapes as soon as practicable. Daily monitoring of the site would also occur to ensure that levels of dust in the air do not markedly increase and that corrective action is taken if necessary.

OPERATION PHASE

Impact

- 2.3 The impact on local air quality of the A509 Isham Bypass when in operation, and the associated re-distribution of traffic on the existing road network, is assessed as beneficial in comparison with the equivalent Do Minimum scenario (i.e. no bypass). There could be an increase of greenhouse gases of up to 58% and an increase in total emissions of up to 124% over the equivalent Do Minimum scenario due to increased travel distances.

Mitigation

- 2.4 With the proposed bypass in operation, even within 20m of the kerbside, air quality is very much better than the air quality objectives set out in the Air Quality Limit Value Regulations 2001 and therefore air quality mitigation measures are not considered to be necessary.

3. NOISE SUMMARY

CONSTRUCTION PHASE

Impact

- 3.1 Construction of the A509 Isham Bypass will inevitably create noise resulting from the movement and operation of construction plant on the site. The worst deteriorations to the existing noise environment are expected to be during the initial general earthworks and installation of road foundations, particularly to the west of Winston Drive, Isham and in the vicinity of No.19 Hill Top Road due to the close proximity of these properties to the proposed works and their low background noise levels. Levels of acceptable noise and working hours would be agreed with the Local Borough Councils prior to the commencement of works and would form part of the contract documentation.

Mitigation

- 3.2 Given the topography and proposed layout around the western-most properties at Hill Top, along the B574, it is unlikely that a noise bund would be practical at this location due to the combination of horizontal and vertical alignments involved. Therefore during the construction phase of the proposed Scheme consideration will be given to restricting working hours to be considerate to the local residents and access to the slip road would be restricted to when it is actually being prepared and constructed only (i.e. no general access permitted).
- 3.3 During the construction phase the impact of the haul road and the initial general earthworks on the noise environment of the western end of Winston Drive could be mitigated in part by either constructing a temporary bund or installing a permanent noise barrier along the Bypass boundary to the rear of No.s 17 to 25 Winston Drive prior to the haul road being used. Such measures could reduce the anticipated noise levels by 5 dB(A).

OPERATION PHASE

Impact

- 3.4 The overall impact on the noise environment by the proposed A509 Isham Bypass when in operation is assessed as beneficial in comparison with the equivalent future Do Minimum scenario. The adverse effects of the proposed scheme have been minimised by the decision to locate the proposed bypass in cuttings of up to 9 metres deep where it passes closest to existing properties at Isham and Hill Top.

Mitigation

- 3.5 Noise levels experienced when the proposed A509 Isham Bypass Scheme is in use will be reduced by the low noise road surface of the main bypass and its associated spurs. It is a requirement of the Planning Approval (Condition 4) that the Bypass be constructed with and maintained with such a road surface.
- 3.6 Despite locating the proposed Bypass in a cutting in the vicinity of properties at the western end of Winston Drive and Fairfield Road these properties may still experience 'substantial' or 'significant' deteriorations to their noise environment with the Bypass in operation. This is due to the fact that their outlook will change from a generally rural environment, to include the direct effect of traffic noise from the proposed Bypass. A noise barrier, in combination with a low noise road surface, would provide a noticeable reduction in noise for these properties. Planning Conditions 4 and 20 request that such provisions be incorporated into the proposed A509 Isham Bypass Scheme, should it proceed to construction. The exact location of a noise barrier in relation to property boundaries should be identified following consultations with residents.

4. VIBRATION SUMMARY

CONSTRUCTION PHASE

- 4.1 Vibration from construction works may be noticeable, although at the distances involved, it is unlikely to be a material consideration in terms of either human perception or building damage for the majority of properties in the study area. However, structural surveys of properties in close proximity to the scheme should be conducted prior to the start of the works and vibration monitoring instigated where necessary. Should a problem be identified alternative construction methods should be considered nearest the properties of concern.

5. CONCLUSION

- 5.1 The relief of congestion and consequent improvement of air and noise quality in Isham outweighs the corresponding derogation in air and noise quality from the Bypass. Furthermore the proposed mitigation would greatly reduce the identified impacts of noise associated with the Bypass on local residents.
- 5.2 During construction, set working hours and controlled working methods would reduce disruption to residents. Once the road was in use noise levels would be minimised by use of a low noise road surface, the designed cuttings and the Winston Drive noise barrier. Air quality along the current route in Isham would be improved and expected air quality around the new bypass would remain better than the statutory air quality objectives.