Ecological Air Quality (Road Vehicle Exhaust Emissions) Assessment

Burringham Road, Scunthorpe

Client: Keepmoat Homes Ltd

Reference: 5386-1r1

Date: 8th March 2024

Report Issue

Report Title: Ecological Air Quality (Road Vehicle Exhaust Emissions) Assessment - Burringham Road, Scunthorpe

Report Reference: 5386-1

Field	Report Version			
	1	2	3	4
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Comments	-			

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1.0 INTRODUCTION

1.1 Background

1.1.1 Redmore Environmental Ltd was commissioned by Keepmoat Homes to undertake an Ecological Air Quality (Road Vehicle Exhaust Emissions) Assessment in support of a residential development on land off Burringham Road, Scunthorpe.

1.1.2 The proposals have the potential to cause changes in pollution levels at sensitive ecological locations as a result of road vehicle exhaust emissions associated with the development. An Ecological Air Quality (Road Vehicle Exhaust Emissions) Assessment was therefore undertaken in order to determine baseline conditions and assess potential impacts associated with the scheme.

1.2 Site Location and Context

1.2.1 The site is located on land off Burringham Road, Scunthorpe, at approximate National Grid Reference (NGR): 486146, 408602. Reference should be made to Figure 1 for a map of the site and surrounding area.

1.2.2 The proposals comprise the development of up to 600 residential dwellings and associated infrastructure.

1.2.3 Following submission of the planning application for the scheme (reference: PA/2023/1124), a consultation response was received from Natural England (NE)[1] indicating concerns over potential air quality impacts as a result of road vehicle exhaust emissions associated with the development at the following ecological designation:

- Humber Estuary Site of Special Scientific Interest (SSSI), Special Area of Conservation (SAC) and Ramsar.

1.2.4 In order to address the comments, an Ecological Air Quality (Road Vehicle Exhaust Emissions) Assessment was undertaken in order to consider potential impacts as a result of the proposals. This is detailed in the following report.

[1] Planning Consultation, NE, 2024.

2.0 METHODOLOGY

2.1 Introduction

2.1.1 NE has produced 'Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations'[2] which describes how competent authorities and others will assess plans and projects likely to generate road traffic emissions and subsequently affect European sites. This provides a staged assessment methodology to provide consideration of potential air quality impacts from a development both alone and in-combination. This was reviewed and the relevant process, as summarised below, followed in relation to the proposed development.

2.2 Assessment Stages

2.2.1 The guidance[3] provides a phased staged assessment approach to ensure the level of detail provided is commiserate with the risk of significant harm to an ecological designation. The initial approach to screening can be summarised as follows:

- Step 1: Does the proposal give rise to emissions which are likely to reach a European site? If there are no designations within 200m of an affected road then it can be concluded that impacts are not significant;
- Step 2: Are the qualifying features of the designation within 200m of the affected road sensitive to air pollution? If there are no sensitive qualifying features within 200m of an affected road then it can be concluded that impacts are not significant;
- Step 3: Could the sensitive qualifying features of the site be exposed to emissions? If the qualifying features could not be exposed to emissions, then it can be concluded that impacts are not significant; and,
- Step 4: Application of the following screening thresholds to determine potential risk of impact alone and in-combination with emissions from other plans and projects:
    - 4a) Alone: Risk of significant effect if change in Annual Average Daily Traffic (AADT) is 1,000 or greater on an affected road link as a result of the development in isolation; and,

[2] Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations, NE, 2018.

[3] Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations, NE, 2018.

- 4b) In-combination: Risk of significant effect if change in AADT is 1,000 or greater on an affected road link as a result of the development in-combination with other relevant plans or projects.

2.2.2 Dependant on the outcome of the above steps, likely significant effects on ecological designations can either be ruled out or an Appropriate Assessment is required to further consider effects associated with changes in pollution levels on the qualifying features.

2.2.3 The assessment results are summarised in the following Sections.

3.0 ASSESSMENT

3.1 Step 1

3.1.1 Step 1 requires identification of ecological designations for inclusion within the assessment. The NE consultation response[4] indicated the following site should be considered:

- Humber Estuary SSSI, SAC and Ramsar.

3.1.2 It is confirmed that the site is within 200m of the A18 Doncaster Road and B1450 Burringham Road which may be used by development generated traffic to access the proposals. As such, it may be affected by road vehicle exhaust emissions and the assessment proceeded to Step 2. Reference should be made to Figure 2 for a map of the designation.

3.2 Step 2

3.2.1 Nitrogen deposition critical loads for the habitats present within the designation were obtained from the Air Pollution Information System (APIS) website[5]. These are presented in Table 1.

Table 1 Critical Loads for Nitrogen Deposition

Receptor	Habitat	Relevant Nitrogen Critical Load Class	Nitrogen Critical Load (kgN/ha/yr)	
			Low	High
Humber Estuary SSSI, SAC and Ramsar	Fixed coastal dunes with herbaceous vegetation ("grey dunes")	Coastal dune grasslands (grey dunes) - acid type	5	10
	Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	Atlantic upper-mid & mid-low salt marshes	10	20

[4] Planning Consultation, NE, 2024.

[5] UK Air Pollution Information System, www.apis.ac.uk.

Receptor	Habitat	Relevant Nitrogen Critical Load Class	Nitrogen Critical Load (kgN/ha/yr)	
			Low	High
	Coastal lagoons	Atlantic upper-mid & mid-low salt marshes	10	20
	Embryonic shifting dunes	Shifting coastal dunes	10	20
	Estuaries	Atlantic upper-mid & mid-low salt marshes	10	20
	Fixed coastal dunes with herbaceous vegetation ("grey dunes")	Coastal dune grasslands (grey dunes) - calcareous type	10	15
	Shifting dunes along the shoreline with Ammophila arenaria ("white dunes")	Shifting coastal dunes	10	20
	Spartina swards (Spartinion maritimae)	Atlantic upper-mid & mid-low salt marshes	10	20
	Salicornia and other annuals colonizing mud and sand	Atlantic pioneer salt marshes	20	30
	Dunes with Hippophae rhamnoides	No comparable habitat with established critical load estimate available	-	-

3.2.2 As shown in Table 1, nine of the habitats present in the Humber Estuary SSSI, SAC and Ramsar have defined critical loads and are therefore considered sensitive to nitrogen deposition. As such, the assessment proceeded to Step 3.

3.3 Step 3

3.3.1 As shown in Figure 2, the designation is located within 200m of the A18 Doncaster Road and B1450 Burringham Road, which may be used to access the proposed development. As such, the assessment proceeded to Step 4.

3.4 Step 4a

3.4.1 Predicted vehicle trip generation from the proposed development on the A18 Doncaster Road and B1450 Burringham Road was provided by Local Transport Projects, the Transport Consultants for the project. This is summarised in Table 2.

Table 2 Predicted Development Alone Changes in AADT Flows

Link	Predicted Change in AADT Flow as a Result of the Development Alone
A18 Doncaster Road - east of River Trent	135
A18 Doncaster Road - over River Trent	189
B1450 Burringham Road	324

3.4.2 As shown in Table 2, the proposals are not predicted to increase traffic flows in the vicinity of the identified ecological designation by more than 1,000. As such, a likely significant effect from the development alone can be ruled out and the assessment proceeded to Step 4b.

3.5 Step 4b

3.5.1 Predicted changes in AADT flows in the assessment year of 2025 as a result of the proposed development and other relevant plans and projects was provided by Local Transport Projects. This is summarised in Table 3.

Table 3 Predicted Development In-Combination Change in AADT Flows

Link	Predicted Change in AADT Flows as a Result of the Development In-Combination
A18 Doncaster Road - east of River Trent	289
A18 Doncaster Road - over River Trent	404
B1450 Burringham Road	411

3.5.2 As shown in Table 3, the proposals, in-combination with other plans and projects, are not predicted to increase traffic flows on the A18 Doncaster Road and B1450 Burringham

Road in the vicinity of the Humber Estuary SSSI, SAC and Ramsar by more than 1,000. As such, a likely significant effect from the development in-combination can be ruled out.

4.0 CONCLUSION

4.1.1 Redmore Environmental Ltd was commissioned by Keepmoat Homes to undertake an Ecological Air Quality (Road Vehicle Exhaust Emissions) Assessment in support of a residential development on land off Burringham Road, Scunthorpe.

4.1.2 The proposals have the potential to cause changes in pollution levels at sensitive ecological locations as a result of road vehicle exhaust emissions associated with the development. An Ecological Air Quality (Road Vehicle Exhaust Emissions) Assessment was therefore undertaken in order to determine baseline conditions and assess potential impacts associated with the scheme.

4.1.3 An assessment was undertaken in accordance with the 'Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations'[6] guidance in order to consider impacts on the following designation:

- Humber Estuary SSSI, SAC and Ramsar.

4.1.4 The results of the assessment indicated a likely significant effect as a result of the proposed development both alone and in-combination could be ruled out at the identified designation.

[6] Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations, NE, 2018.

5.0 ABBREVIATIONS

AADT	Annual Average Daily Traffic
APIS	Air Pollution Information System
NE	Natural England
SAC	Special Area of Conservation
SSSI	Site of Special Scientific Interest

Figures

Legend

Site Boundary

Title

Figure 1 - Site Location Plan

Project

Ecological Air Quality (Road Vehicle Exhaust Emissions) Assessment
Burringham Road, Scunthorpe

Project Reference

5386-1

Client

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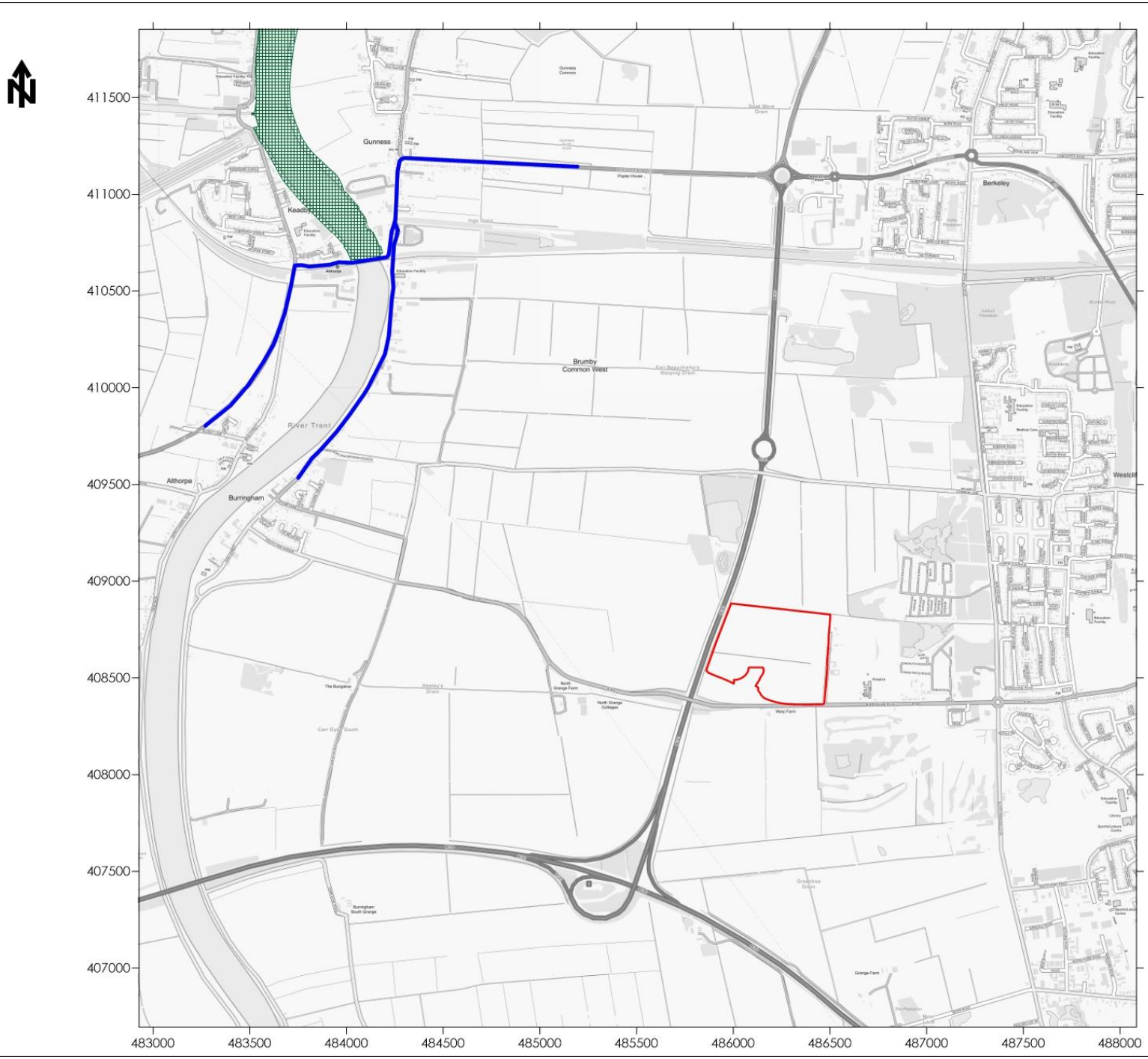

Legend

Site Boundary

Humber Estuary SSSI, SAC and Ramsar

Assessed Road Link

Title

Figure 2 - Humber Estuary SSSI, SAC and Ramsar Location

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