This information is available free of charge in electronic, audio, Braille and large print versions on request.

For assistance in understanding or reading this document or specific information about this Agenda or on the "Public Participation" initiative please call the Committee Team on 01629 761133 or e-mail: committee@derbyshiredales.gov.uk

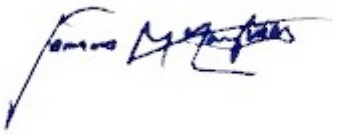
30 March 2021

To: All Councillors

As a Member or Substitute of the **Community & Environment Committee**, please treat this as your summons to attend a meeting on **Wednesday 07 April 2021 at 6.00pm** via the Zoom application. (Joining details will be provided separately).

Under Regulations made under the Coronavirus Act 2020, the meeting will be held virtually. As a member of the public you can view the virtual meeting via the District Council's website at www.derbyshiredales.gov.uk or via our YouTube channel.

Yours sincerely,



James McLaughlin
Director of Corporate and Customer Services

AGENDA

1. APOLOGIES/SUBSTITUTES

Please advise the Committee Team on 01629 761133 or email committee@derbyshiredales.gov.uk of any apologies for absence and substitute arrangements.

2. APPROVAL OF MINUTES OF PREVIOUS MEETING

10 February 2021 and 25 March 2021 (Special Meeting)

3. PUBLIC PARTICIPATION

As the Council cannot hold meetings at the Town Hall, Public Participation can only take place using the Zoom application or by written representations. Members of the public are able to comment or ask questions on the items listed in the agenda and must give notice before 12 noon on the day preceding the meeting by:

Web-form: Make your submission here
Email: committee@derbyshiredales.gov.uk
Post: Democratic Services, Derbyshire Dales District Council, Town Hall, Matlock DE4 3NN

The Committee Team will assist any member of the public without access to electronic means by capturing their concerns over the telephone.

Phone: 01629 761133 (working days only 9am – 5pm)
Written representations, received by the deadline will be read out at the meeting, verbal contributors will be given instructions on how to join the meeting after giving notice.

All meeting proceedings open to the public will be streamed live on our YouTube channel when all non-exempt items are being considered. Recordings of the meeting will also be available after the event on the District Council's website

4. INTERESTS

Members are required to declare the existence and nature of any interests they may have in subsequent agenda items in accordance with the District Council's Code of Conduct. Those interests are matters that relate to money or that which can be valued in money, affecting the Member her/his partner, extended family and close friends. Interests that become apparent at a later stage in the proceedings may be declared at that time.

5. QUESTIONS PURSUANT TO RULE OF PROCEDURE NUMBER 15

To answer questions from Members who have given the appropriate notice.

Page No.

6. AIR QUALITY MANAGEMENT AREA – ASHBOURNE 04 – 38

To note a report on the findings of the Detailed Assessment of air quality in the vicinity of Buxton Road and St. John's Street in Ashbourne. Also to consider approval for the Order to declare an Air Quality Management Area for Ashbourne and that authority to formulate an Action Plan, in relation to the Air Quality Management Area, be delegated to the Environmental Health Team.

7. CEMETERY CONSECRATIONS 39 – 41

To consider approval for the District Council to grant permission for the consecration of designated land at the following cemeteries: Bakewell, Brassington and Steeple Arch in Wirksworth. Also to consider approval that authority be delegated to the Neighbourhoods Manager and the Clean & Green Manager, on behalf of the District Council, to sign any documents required to facilitate the consecration of land at the Bakewell, Brassington and Steeple Arch in Wirksworth cemeteries.

8. COUNCIL HOUSING UPDATE REPORT 42 – 47

To note a report on the progress of the District Council's Housing Programme.

Members of the Committee - Councillors: Sue Bull, Matthew Buckler, Martin Burfoot, Helen Froggatt (Vice Chair), Chris Furness (Chair), Clare Gamble, Susan Hobson, David Hughes, Tony Morley, Peter O'Brien, Garry Purdy, Mike Ratcliffe, Andrew Statham, Alasdair Sutton, Steve Wain and Mark Wakeman.

Substitutes – Councillors: Robert Archer, Jason Atkin, Sue Burfoot, Neil Buttle, Tom Donnelly, Richard FitzHerbert, Alyson Hill and Peter Slack

NOT CONFIDENTIAL – For public release **Item No. 6**

COMMUNITY & ENVIRONMENT COMMITTEE
07 APRIL 2021

Report of the Director of Regulatory Services

AIR QUALITY MANAGEMENT AREA - ASHBOURNE

PURPOSE OF REPORT

This report informs members of the findings of a Detailed Assessment of air quality in the vicinity of Buxton Road and St John's Street, Ashbourne and makes recommendations for the declaration of an Air Quality Management Area and the wider public dissemination of this information.

RECOMMENDATION

1. That members note the findings of the Detailed Assessment;

2. That the order to declare an Air Quality Management Area for Ashbourne be approved;

3. That authority to formulate an Action Plan in relation to the Air Quality Management Area is delegated to the Environmental Health Team.

WARDS AFFECTED

Ashbourne North

STRATEGIC LINK

Protecting and improving air quality supports the District Council's priority of Place and directly addresses the Corporate Plan indicator CP20/PL14 to carry out a Detailed Assessment and progress to an Air Quality Management Area and Action Plan as necessary.

1 BACKGROUND

1.1 Under the terms of Part 4 of the Environment Act 1995 the District Council has a statutory duty to annually assess air quality within its area. This assessment includes a number of pollutants, one of which is nitrogen dioxide.

1.2 The national Clean Air Strategy 2019 has recently been published and supersedes the policies outlined in the 2007 strategy. This latest strategy aims to have a more joined-up approach, outlining actions the Government plans to take to reduce emissions from transport, homes, agriculture and industry. However, the air quality objectives remain as previously detailed within the 2007 strategy. Where a risk of exceeding an air quality objective for one or more of the relevant pollutants is identified, a Detailed Assessment must be undertaken to identify with reasonable certainty whether the objective is likely to be breached.

2 REPORT

2.1 Monitoring by Derbyshire Dales District Council using passive diffusion tubes on Buxton Road in Ashbourne, indicated that the national air quality objective for nitrogen dioxide (NO_2) of 40µg/m^3 averaged over a period of 1 year, was likely to be exceeded. The District Council has therefore engaged consultants to undertake a Detailed Assessment to assess if there is a need to declare an Air Quality Management Area (AQMA) and to define the geographical extent of any such AQMA. The Council contracted consultants RSK to carry out this assessment, which included detailed modelling using ADMS Roads software, that being the recommended approach under Local Air Quality Management Technical Guidance (TG16).

2.2 In addition to modelling the likelihood of exceedances of the Air Quality Objective for NO_2, further modelling was undertaken to consider whether there was a likelihood of exceedances of the Air Quality Objectives for fine particulate matter, known as PM_{10} and $PM_{2.5}$, both of which can be associated with emissions due to road traffic.

2.3 In considering likely exceedances of the Air Quality Objectives, the Detailed Assessment modelled levels at specific sensitive receptors, such as residential and business properties, as well as plotting the general contours of exceedance, which, as expected, follow the course of roads in the area. Defra guidance defines the locations that need to be considered for the purposes of Local Air Quality Management as areas where members of the public are likely to be exposed over the relevant time period stated in the objective. In the case of nitrogen dioxide this time period is 1 year and therefore exposure at residential and business locations can be viewed as more significant than occasional exposure in the general area.

2.4 The Detailed Assessment and modelling has suggested that the annual mean Air Quality Objective for NO_2 is being exceeded at a number of roadside receptor locations on Buxton Road, Ashbourne. These locations are detailed in the Report, which is attached as Appendix 1 to this report, as receptors R7 to R13 and R34. These may be summarised as numbers 16 to 28 Buxton Road (even numbers only), plus 3 Market Place.

2.5 The Detailed Assessment notes that the predicted exceedance at receptor R34 does not correlate with the monitoring results from the diffusion tube located near to this site. It is suggested that monitoring during the pandemic may have resulted in lower readings at this point than anticipated by the modelling and that as a consequence further monitoring should be undertaken at this site.

2.6 Further comments are made in relation to the readings obtained from diffusion tube 19 (higher up Buxton Road). This site had a monitored annual mean of 57.42 µg/m^3 in 2019, but the modelling undertaken as part of the Detailed Assessment suggested that the Air Quality Objective would not be expected to be exceeded in this location. The Report notes that this tube is located in an area that is affected by overhanging trees and suggests that the diffusion tube monitoring results should be treated with caution and that the tube should be relocated.

2.7 In relation to PM_{10} and $PM_{2.5}$, the Detailed Assessment has indicated that annual mean concentrations are not being exceeded and are instead well below the respective objectives. The Air Quality Objectives for PM_{10} and $PM_{2.5}$ are 40 µg/m^3 and 25 µg/m^3 respectively, both averaged over a 1 year period, and the Detailed Assessment suggests that annual mean concentrations for PM_{10} vary between 10.15 and 13.98

µg/m^3 and that annual mean concentrations of $PM_{2.5}$ vary between 6.73 and 9.01 µg/m^3, indicating that levels of these pollutants are no higher than 36% of the Air Quality Objectives.

2.8 The report reaches the following conclusions:

- Declaration of an AQMA along Buxton Road and St John's Street is recommended, where exceedances of the annual mean NO_2 objective are predicted.

- Continue monitoring NO_2 within the areas where predicted annual mean NO_2 concentrations are above 36µg/m^3.

2.9 The report identifies areas where the Air Quality Objective is being breached and areas where the predicted annual mean is above 36µg/m^3 which is within 10% of the Air Quality Objective. The areas are shown in Appendix C of the Detailed Assessment, where the areas predicted to exceed the Air Quality Objective are shown hatched in pink and the areas predicted to be within 10% of the Air Quality Objective are shown hatched in blue. Defra guidance states that provided all areas that exceed are included within AQMAs, it is the responsibility of the local authority to define the boundaries of the AQMA. As such, an AQMA can be declared for the whole area including the areas over 36µg/m^3 or simply those areas that are breaching the Air Quality Objective of 40 µg/m^3. It is generally recommended that the whole area be declared to take account of uncertainties that may exist within the data and the modelling, and to avoid the need to amend the Air Quality Management Area Order in the future.

2.10 For this reason, it is recommended that an Air Quality Management Area is declared in respect of the following area:

- Buxton Road from the junction with Windmill Lane and North Avenue, to the junction with St John's Street;

- St John's Street from number 22 St John's Street to the junction with Cokayne Avenue and Park Road

2.11 This area is shown in the plan provided at Appendix C within the Detailed Assessment at Appendix 1 to this report.

2.12 It is also recommended that Members approve an Order to make the declaration and a draft Order is shown as Appendix 2 to this report (with a map to be added as per paragraph 2.11 above). Following the declaration, it is recommended that the declaration is widely publicised with other agencies such as neighbouring local authorities, the Environment Agency and the public. The report and order must then be submitted to the Local Air Quality section of Defra.

3 RISK ASSESSMENT

3.1 Legal

The Council is required to produce a plan as described in the report to address any areas where the national air quality objective are not or it appears will not be met. As such this report is seeking authority for the Council to comply with its statutory obligations. Failure to undertake this work could result in legal challenge and thus as

long as the area is designated an Air Quality Management Area and plan is produced the legal risk is low.

3.2 Financial

The costs of monitoring air quality can be accommodated from the existing budgets. The financial risk is, therefore, assessed as low.

4 OTHER CONSIDERATIONS

4.1 In preparing this report, the relevance of the following factors has also been considered: prevention of crime and disorder, equalities, environmental, climate change, health, human rights, personnel and property.

5 CONTACT INFORMATION

5.1 Tim Braund - Director of Regulatory Services
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Amanda Goodwill - Environmental Health Manager
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Email: amanda.goodwill@derbyshiredales.gov.uk

Karen Carpenter - Environmental Health Officer
Tel: 01629 761227
Email: karen.carpenter@derbyshiredales.gov.uk

6 BACKGROUND PAPER

6.1 None

7 ATTACHMENTS

Appendix 1 – A515 Buxton Road, Ashbourne, LAQM Detailed Assessment, RSK Consulting

Appendix 2 – draft Air Quality Management Area

Derbyshire Dales District Council

A515 Buxton Road, Ashbourne

LAQM Detailed Assessment

Report No.: 444064-AQ01 (01)

MARCH 2021

RSK GENERAL NOTES

Report No.: 444064-AQ01 (01)

Title: A515 Buxton Road, Ashbourne – LAQM Detailed Assessment

Client: Derbyshire Dales District Council
Principal Contact: Karen Carpenter

Date: 15th March 2021

Status: Final

Author	Erin Zhang Senior Air Quality Consultant	**Technical reviewer**	Anna McMahon Senior Air Quality Consultant
Signature		Signature	
Date:	15th March 2021	Date:	15th March 2021

Approved by	Dr Srinivas Srimath Director, Air Quality		
Signature			
Date:	2nd March 2021		

Summary

Derbyshire Dales District Council (DDDC) has monitored exceedances of annual mean nitrogen dioxide (NO_2) concentrations, compared to the National Air Quality Strategy objectives, on Buxton Road, Ashbourne.

This report provides a Detailed Assessment of air quality at the above location and includes a dispersion modelling assessment. Dispersion modelling has been undertaken with the use of the ADMS-Roads software and following guidance within Local Air Quality Management Technical Guidance (TG16).

The model results suggest that the annual mean NO_2 AQS objective are exceeded on some stretches of Buxton Road (at modelled receptors R7-R13 and R34). The objectives for PM_{10} and $PM_{2.5}$ are predicted to be met at all modelled receptors.

Based on the results of this Detailed Assessment and a review of local air quality monitoring data, the following recommendations are made for DDDC:

- To consider declaration of an Air Quality Management Area (AQMA) along Buxton Road, where exceedances of the annual mean NO_2 objective are predicted (with due consideration to the presence of relevant receptors for the annual mean objective).
- To continue monitoring NO_2 within the areas where predicted annual mean NO_2 concentrations are above 36µg/m^3.
- Diffusion tube Site 19 should be relocated to another roadside location, where there is free circulation of air and no overhanging trees/bushes.
- To update the classification of diffusion tube Site 8 and Site 11 as roadside location and select a new urban background NO_2 monitoring location situated further away from any busy road.
- It is understood that a new bypass between the A52 Mayfield Road and A515 Buxton Road, bypassing Ashbourne town centre to the west of the town, is currently being considered by DCC, aiming to resolve traffic and air quality issues within the town of Ashbourne, Derbyshire. With the bypass in place, less traffic will travel on Buxton Road through Ashbourne and will likely improve air quality along Buxton Road. It is recommended that an updated air quality assessment is undertaken once further information becomes available for the bypass.

Abbreviations

AADT	Annual Average Daily Traffic
ADMS-Roads	Atmospheric Dispersion Modelling System – Roads (a dispersion modelling software application)
AQAP	Air Quality Action Plan
AQMA	Air Quality Management Area
AQS	Air Quality Strategy
DCC	Derbyshire County Council
DDDC	Derbyshire Dales District Council
Defra	Department for Environment, Food and Rural Affairs
DfT	Department for Transport
EC	European Commission
EFT	Emission Factors Toolkit – developed by Defra
LAQM	Local Air Quality Management
NO_2	Nitrogen dioxide
NO_x	Oxides of nitrogen
$PM_{2.5}$	Particulate matter of size fraction approximating to <2.5mm diameter
PM_{10}	Particulate matter of size fraction approximating to <10mm diameter
RSK	RSK Environment Limited

Contents

1 INTRODUCTION

1.1 Background

RSK Environment Ltd (RSK) was commissioned by Derbyshire Dales District Council (DDDC) to undertake a Detailed Assessment of air quality within Ashbourne. As part of their Local Air Quality Management (LAQM) monitoring works, DDDC has monitored exceedance of UK Air Quality Strategy (AQS) objective for annual mean nitrogen dioxide (NO_2) concentrations at two locations on Buxton Road, Ashbourne. DDDC have therefore require a Detailed Assessment to review and analyse the annual mean NO_2 and particulate matter (PM_{10} and $PM_{2.5}$) concentrations at relevant sensitive receptor locations along Buxton Road. This detailed assessment will identity the extent of the risk area for likely exceedance of the national air quality objectives and recommend whether an Air Quality Management Area (AQMA) should be declared. This report has been prepared as part of the LAQM process for declaring an AQMA.

1.2 Air Pollutants of Concern

Road traffic is expected to be the main source of air pollutants in the study area. The principal pollutants relevant to this assessment are therefore considered to be NO_2, PM_{10} and $PM_{2.5}$ which are generally regarded as the most significant air pollutants released by vehicular combustion processes (as they tend to be more likely to be close to exceeding statutory limits in an urban environment), or subsequently generated by vehicle emissions in the atmosphere through chemical reactions. Therefore, concentrations of annual mean NO_2, PM_{10} and $PM_{2.5}$ have been modelled and assessed in this assessment.

1.3 Overall Approach

The overall approach taken for this Detailed Assessment are summarised as follows (a detailed methodology can be found in Section 4):

- Baseline characterisation of local air quality.
- Consultation with DDDC to define study scope and methodology.
- Consultation with transport consultants from Derbyshire County Council (DCC) to obtain required traffic data.
- Undertaking detailed modelling assessment of annual mean NO_2, PM_{10} and $PM_{2.5}$ concentrations on Buxton Road, Ashbourne.
- Identification of the extent of the risk area for likely exceedance of the national air quality objectives.
- High level recommendations for future actions to improve air quality in the study area and potential future monitoring requirements.

2 LEGISLATION AND GUIDANCE

2.1 Air Quality Strategy

UK air quality policy is published under the umbrella of the Environment Act 1995, Part IV and specifically Section 80, the National Air Quality Strategy. The *Air Quality Strategy for England, Scotland, Wales and Northern Ireland – Working Together for Clean Air*, published in July 2007 sets air quality standards and objectives for ten key air pollutants to be achieved between 2003 and 2020.

The Air Quality Framework Directive (1996) established a framework under which the European Commission (EC) could set limit or target values for specified pollutants. The directive identified several pollutants for which limit or target values have been or will be set in subsequent 'daughter directives'. The framework and daughter directives were consolidated by Directive 2008/50/EC on Ambient Air Quality and Cleaner Air for Europe, which retains the existing air quality standards and introduces new objectives for fine particulates ($PM_{2.5}$).

The Clean Air Strategy 2019 supersedes the policies outlined in the 2007 strategy. This latest strategy aims to have a more joined-up approach, outlining actions the Government plans to take to reduce emissions from transport, homes, agriculture and industry. However, the air quality objectives remain as previously detailed within the 2007 strategy.

2.1.1 Air Quality Standards

The air quality standards in the United Kingdom are derived from EC directives and are adopted into English law via the Air Quality (England) Regulations 2000 and Air Quality (England) Amendment Regulations 2002. The Air Quality Limit Values Regulations 2003 and subsequent amendments implement the Air Quality Framework Directive into English Law. Directive 2008/50/EC was translated into UK law in 2010 via the Air Quality Standards Regulations 2010.

The relevant[1] standards for England and Wales to protect human health are summarised in Table 2.1.

Table 2.1: Air Quality Standards Relevant to this study (referred to as Air Quality Strategy (AQS) objectives throughout report)

Substance	Averaging period	Exceedances allowed per year	Ground level concentration limit ($\mu g/m^3$)
Nitrogen dioxide (NO_2)	1 calendar year	N/A	40
	1 hour	18	200
Fine particles (PM_{10})	1 calendar year	N/A	40

[1] Relevance, in this case, is defined by the scope of the assessment.

Substance	Averaging period	Exceedances allowed per year	Ground level concentration limit (µg/m^3)
	24 hours	35	50
Fine particles ($PM_{2.5}$)	1 year	N/A	25

2.1.2 The Environment Act

The set AQS objectives are to be used in the review and assessment of air quality by local authorities under Section 82 of the Environment Act (1995). If exceedances are measured or predicted through the review and assessment process, the local authority must declare an Air Quality Management Area (AQMA) under Section 83 of the act, and produce an Air Quality Action Plan (AQAP) to outline how air quality is to be improved.

2.2 Local Air Quality Management

As directed by the Environment Act 1995, local authorities are required to review and assess air quality with respect to the standards and objectives for the pollutants specified in the Government's National Air Quality Strategy (2007).

Where objectives are not predicted to be met, local authorities must declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP), which outlines measures aimed at improving air quality within the designated AQMA. Technical Guidance for Local Air Quality Management (The Department for Environment, Food and Rural Affairs, 2016) sets out a phased approach to the Review and Assessment process.

2.3 Best Practice Guidance Documents

2.3.1 Local Air Quality Management Review and Assessment Technical Guidance

The Department for Environment, Food and Rural Affairs (Defra) has published technical guidance for use by local authorities in their air quality review and assessment work. This guidance, referred to in this document as LAQM.TG(16), has been used where appropriate in the assessment presented herein.

3 BASELINE AIR QUALITY CHARACTERISATION

Existing or baseline air quality refers to the concentrations of relevant substances that are already present in ambient air. A desk-based study has been undertaken including a review of potential sources of air pollution in the vicinity of the application site, monitoring data available from DDDC and estimated background data from the LAQM Support website maintained by Defra.

3.1 Local Authority Review and Assessment of Air Quality

There is currently no AQMA declared within DDDC. The study area is not located within or adjacent to any existing AQMA.

3.2 Local Authority Air Quality Monitoring Data

DDDC does not have any automatic monitoring sites. Following a review of the 2020 Air Quality Annual Status Report for DDDC, it is understood that DDDC undertook diffusion tube monitoring of NO_2 at 20 sites during 2019. Seven of these sites are located within Ashbourne, as presented in **Table 4.1**. It is noted that measured NO_2 concentrations exceeded the annual mean AQS objective of 40µg/m^3 at Site 12 (Buxton Road, Ashbourne) and Site 19 (1/7 Road Sign, Opp 25 Buxton Road). For the remaining monitoring locations within Ashbourne (i.e. Site 8, 9, 10, 11 and 20), monitored annual mean NO_2 concentrations were well below the AQS objective during 2015-2019.

Table 4.1: Annual Mean NO_2 Concentrations for 2015-2019 within Ashbourne

Site ID	Site Name	Site Type	Annual Mean NO_2 Concentrations (µg/m^3)				
			2015	2016	2017	2018	2019
8*	King Street/ Buxton Road	Urban Centre	-	-	-	-	24.93
9*	Cancer Shop, Buxton Road	Kerbside	14.06	12.34	15.04	-	28.81
10	Taylor Court, Ashbourne	Roadside	27.24	24.92	26.94	24.71	22.84
11	St Johns St, Ashbourne	Urban Background	31.33	29.64	31.82	25.45	27.23
12	Buxton Road, Ashbourne	Roadside	-	-	-	**49.37**	**47.00**
19*	1/7 Road Sign Opp 25 Buxton Road	Kerbside	-	-	-	-	**57.42**
20*	Windmill Ln / Buxton Road	Kerbside	-	-	-	-	25.36

Results in bold indicate an exceedance of the AQS objective.
***Diffusion tubes only have five months' (August – December) monitoring data during 2019

3.3 LAQM-Support Estimated Background Data

Estimated background air quality data are available from the LAQM website operated by Defra (http://laqm.defra.gov.uk). The Defra LAQM website provides estimated annual average background concentrations of NO_2, PM_{10} and $PM_{2.5}$ on a $1km^2$ grid basis with the latest maps using 2018 base year data and with data projected up to the year 2030. **Table 4.2** presents estimated annual average background NO_2, PM_{10} and $PM_{2.5}$ concentrations at the study area for 2019. The estimated background concentrations at the study area are well below the relevant UK AQS objectives.

Table 4.2: Defra LAQM Estimated Annual Average NO_2, PM_{10} and $PM_{2.5}$ Concentrations at Study Site (2019)

Grid Reference	Estimated 2019 Annual Average Background Pollutant Concentrations from the LAQM Support Website (µg/m³)		
	NO_2 *	PM_{10}	$PM_{2.5}$
417500, 347500	7.15	9.82	6.44
AQS Objectives	**40**	**40**	**25**

Note: Presented concentrations for 1 x 1 km grid squares centred on 417500, 347500; approximate centre of the study area is 417961, 347012

*Air Quality Consultants reviewed Defra's 2018-based background mapped NO_x and NO_2 concentrations for 2019 against 2019 annual mean measured background concentrations at automatic monitoring sites. They identified that the 2019 Defra mapped data are under-predicting (except in inner-London), therefore, an adjustment factor of 1.0855 has been applied to background NO_2 concentrations for a conservative approach.

4 ASSESSMENT METHODOLOGY

The following subsections provide further information regarding input to the dispersion model including traffic emissions sources, meteorological data and receptors included, model verification and processing of the outcomes of the assessment.

4.1.1 Modelling Software

ADMS-Roads is an advanced dispersion model developed by the UK consultancy CERC (Cambridge Environmental Research Consultants). ADMS-Roads is widely used and validated within the UK and Europe. The model allows for the skewed nature of turbulence within the atmospheric boundary layer. ADMS-Roads is capable of processing hourly sequential meteorological data, whilst taking the turbulence caused by vehicles into account in calculating the dispersion profiles of emitted pollutants. ADMS-Roads enables the user to predict concentrations of pollutants of concern at multiple receptor locations.

ADMS-Roads (Version 5.0.0.1) has been used in this assessment for assessing annual mean NO_2, PM_{10} and $PM_{2.5}$ concentrations on Buxton Road, Ashbourne, and the potential exposure of existing sensitive receptors along Buxton Road, to poor air quality.

4.1.2 Traffic Data

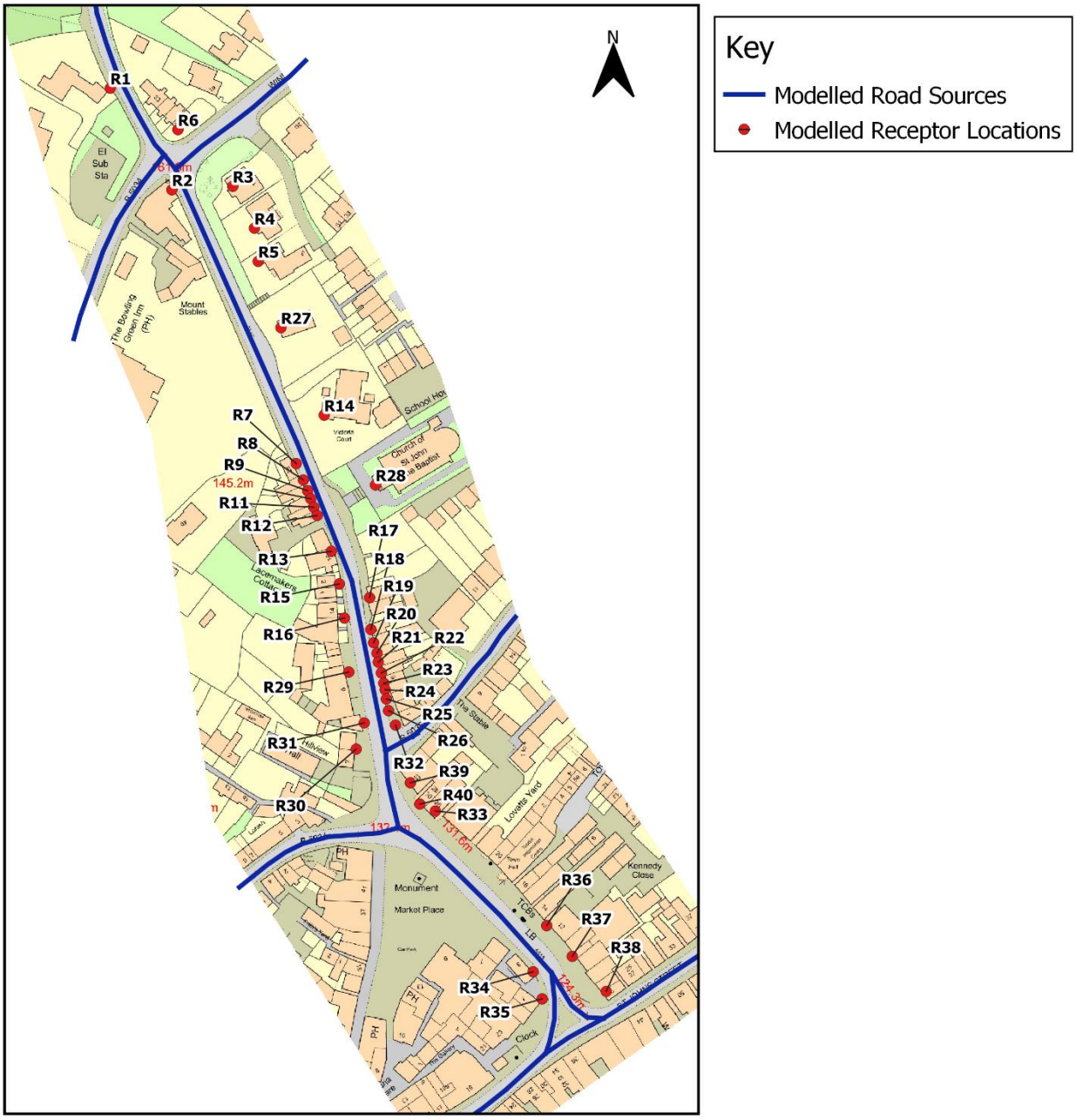
Traffic data used in the air quality assessment was provided by transport consultants at DCC and AECOM.

The traffic data used in the air quality dispersion modelling is presented in Appendix A. The road network included in the dispersion model is presented in Figures 4.1.

2020 local air quality monitoring data has become available at the time of writing. However, due to the Covid-19 outbreak in the UK and national/local lockdowns during 2020 and continuing into 2021, it is considered that the air quality monitoring data in 2020 and 2021 is likely to be affected by the change in traffic flows related to the Covid-19 pandemic. Therefore, monitoring data during this period should be treated with caution and the measured pollutant concentrations during 2020 may not be the most representative for normal conditions. It has been therefore decided to use 2019 as the assessment base year and also for model verification purposes.

Guidance in LAQM.TG(16) and professional judgement was used to estimate speeds for use within the assessment, including reduced speeds at junctions and known areas of congestion. Speed data used has, therefore, taken consideration of local conditions to take account of congestion and stop/start vehicle movements at junctions. Speeds were reduced at busy junctions to 20-25kph to reflect the higher emissions of queuing traffic.

Figure 4.1: The Roads and Receptors Included in the Dispersion Modelling Assessment



4.1.3 Traffic Emission Factors

Version 10.1 of the Emissions Factor Toolkit (EFT), published by Defra, was used to derive vehicle emissions factors (i.e. the amount of pollution emitted from the average vehicle fleet, in g/km/s) for NO_x, PM_{10} and $PM_{2.5}$. Within the EFT, emission factors are available for all years between 2018 and 2030 and take into account the most recent evidence relating to factors such as advances in vehicle and exhaust technology and changes in composition of the vehicle fleet.

For some sections of the Buxton Road, gradients ranging between 6.4 and 15% were applied, where appropriate.

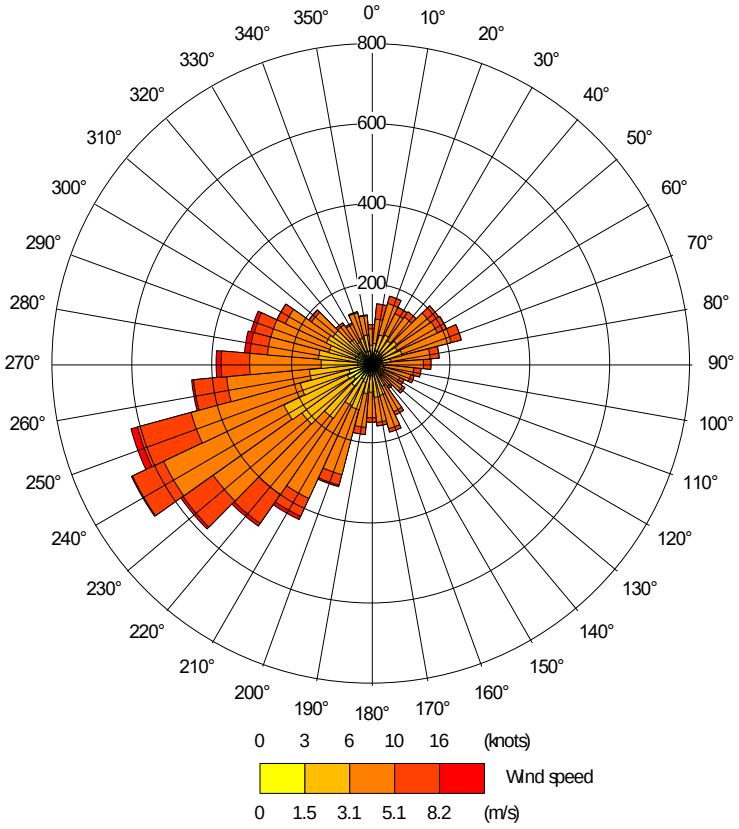
4.1.4 Time-Varying Profile

Vehicle movements vary with time of the day and depending on the day of the week. A diurnal profile for the A515 Buxton Road was not available, however diurnal profiles for two local links (A52 and B5035) were available and provided by the project transport consultants. Given that B5035 is located closer to the study area, a diurnal profile was calculated from the B5035 data and applied to all of the assessed roads within the study area. The diurnal profile is presented in Appendix A. A value of 1 on the y-axis is equivalent to the hourly average flow over 24 hours.

4.1.5 Meteorological Data

2019 hourly sequential meteorological data from the Nottingham Watnall meteorological station was employed in the dispersion model. This meteorological station is located approximately 32.7km east of the study area and is considered to be representative of the study area. The windrose derived from the 2019 dataset is presented in Figure 4.2. The predominant wind direction was from the south-west.

Figure 4.2 Windrose from the Nottingham Watnall Meteorological Station in 2019



4.1.6 Background Air Quality Data Used in the Modelling

Urban background NO_2 concentrations have been monitored at one urban centre location (Site 8, King Street/Buxton Road) and one urban background location (Site 11, St Johns St, Ashbourne) within Ashbourne. Following a review of these two locations on the map, it is noted that both locations are situated close to main roads (less than 10m). Compared to Site 8 and Site 11, diffusion tube located at Taylor Court (Site 10) is located in a quieter area and considered to be more representative as an urban centre background location. Therefore, 2019 monitored annual mean NO_2 concentrations from Taylor Court has been used as annual mean NO_2 background concentration when processing the model results.

Given that there are currently no nearby representative background monitoring locations for PM_{10} and $PM_{2.5}$, background concentrations for PM_{10} and $PM_{2.5}$ have been obtained from the 2018-based background maps on the Defra LAQM Support website, which provides estimated annual average background concentrations of PM_{10} and $PM_{2.5}$ on a 1 km^2 grid basis. The Defra LAQM background concentration maps assume that background concentrations will improve (i.e. reduce) over time, in line with predicted reduction in vehicle emissions as well as reduction in emissions from other sources. 2019 estimated PM_{10} and $PM_{2.5}$ background concentrations from Defra maps have been used in the assessment.

4.1.7 Sensitive Receptor Locations

Pollutant concentrations were predicted at a number of receptor locations along Buxton Road. Receptors were selected at the façades of buildings near the modelled road links, to ensure that 'worst-case' impacts were captured. Details of all specific receptors included in the modelling study are summarised in Table 4.1 and shown in Figure 4.1.

Table 4.1: Receptors Included in the Dispersion Modelling Assessment

Receptor ID	Receptor Location	Grid Reference		
		X	Y	Z
R1	Ashbourne CP, Ashbourne	417903	347109	1.5
R2	The Bowling Green Inn, 2 North Avenue, Ashbourne CP, Ashbourne	417927	347069	1.5
R3	1 Drovers Way, Ashbourne	417951	347071	1.5
R4	2 Drovers Way, Ashbourne	417959	347054	1.5
R5	3 Drovers Way, Ashbourne	417961	347041	1.5
R6	27 Buxton Road, Ashbourne	417929	347092	1.5
R7	28 Buxton Road, Ashbourne	417976	346963	1.5
R8	26 Buxton Road, Ashbourne	417978	346956	1.5
R9	24 Buxton Road, Ashbourne	417980	346952	1.5
R10	22 Buxton Road, Ashbourne	417981	346949	1.5
R11	20 Buxton Road, Ashbourne	417983	346946	1.5
R12	18 Buxton Road, Ashbourne	417984	346942	1.5
R13	16 Buxton Road, Ashbourne	417990	346929	1.5
R14	Victoria Court, Buxton Road, Ashbourne	417987	346982	1.5
R15	1 Buxton Road, Ashbourne	417993	346916	1.5
R16	10 Buxton Road, Ashbourne	417995	346903	1.5
R17	21 Buxton Road, Ashbourne	418005	346911	1.5
R18	19 Buxton Road, Ashbourne	418005	346898	1.5
R19	17 Buxton Road, Ashbourne	418006	346893	1.5
R20	15 Buxton Road, Ashbourne	418008	346889	1.5
R21	13 Buxton Road, Ashbourne	418008	346885	1.5
R22	11 Buxton Road, Ashbourne	418009	346881	1.5
R23	9 Buxton Road, Ashbourne	418010	346877	1.5
R24	7 Buxton Road, Ashbourne	418011	346875	1.5
R25	5 Buxton Road, Ashbourne	418011	346871	1.5
R26	3 Buxton Road, Ashbourne	418012	346867	1.5
R27	25 Buxton Road, Ashbourne	417970	347016	1.5
R28*	St. John's Church, Buxton Road, Ashbourne	418007	346954	1.5

Receptor ID	Receptor Location	Grid Reference		
		X	Y	Z
R29*	Ashbourne Living Magazine, 8 Buxton Rd, Ashbourne	417997	346882	1.5
R30*	The Laundry Room, 2 Buxto n Rd, Ashbourne DE6 1EX	418000	346852	1.5
R31*	The Laundry Room, 2 Buxton Rd, Ashbourne DE6 1EX	418003	346862	1.5
R32*	Honeyz Hairdresser,1 Buxton Rd, Market Place, Ashbourne	418015	346861	1.5
R33*	Friends Cafe and Tearoom, 26 Market Place, Ashbourne	418031	346828	1.5
R34*	Cancer Research UK, 3 Market Place, Ashbourne	418069	346765	1.5
R35*	Stepping Stones Shoes, 1 Market Place, Ashbourne	418073	346755	1.5
R36*	Nottingham Building Society,12 Market Pl, Market Place, Ashbourne	418074	346783	1.5
R37*	Elite Outdoor, Market Place, Ashbourne	418084	346771	1.5
R38*	The Queen's Vaults, 6 Market Pl, Market Place, Ashbourne	418098	346758	1.5
R39*	32 Buxton Road, Ashbourne	418021	346838	1.5
R40*	30-28 Buxton Road, Ashbourne	418024	346830	1.5
*Commercial receptors, only daily and hourly objectives apply				

4.1.8 Street Canyon

The town centre of Ashbourne has a number of areas with terraced buildings and relatively narrow streets, with buildings on some sections of the road abutting the pavement on both sides. The buildings and walls present are considered likely to cause ‘street canyon’ effects along some sections of Buxton Road, King Street, Union Street and St John Street, and therefore impede the dispersion of pollutants. A mixture of simple street canyon and advanced street canyons were applied within the model, where appropriate.

4.1.9 Other Model Input Parameters

In order to represent the nature of the study area and surrounding area, a surface roughness length of 0.8m was included in the model. The Monin-Obukhov length (related to atmospheric stability) was assumed to be 10m (small towns with population of <50,000 people). Settings were adjusted at the meteorological data site which is located in an open suburbia area; a surface roughness of 0.5 and a Monin-Obukhov length of 10m were used.

4.1.10 Model Verification and Results Processing

The ADMS-Roads dispersion model has been widely validated for this type of assessment and is considered to be fit for purpose. Model validation undertaken by the

software developer will not have included validation in the vicinity of the study area considered in this assessment. To determine the performance of the model at a local level, a comparison of modelled results with the results of monitoring carried out within the study area was undertaken. This process of verification attempts to minimise modelling uncertainty and systematic error by correcting modelled results by an adjustment factor to gain greater confidence in the final results, and was carried out following the methodology specified in LAQM.TG(16).

There are seven diffusion tube locations within Ashbourne. Five of them (i.e. Site 8, 9, 12, 19 and 20) are located within the study area where traffic data is available. Site 8, 9, 19 and 20 only have 5 months' data capture in 2019, therefore due to low data capture these locations have been excluded from model verification. Site 12 (Buxton Road, Ashbourne) has a full year of data capture and is a roadside location. 2019 monitored annual mean NO_2 concentration from Site 12 has therefore been used to verify predicted road NO_x concentrations. Full details of the verification calculations are presented within Appendix B.

A factor of 2.02 was obtained and applied to the modelled road-NO_x component predicted at all receptors. The verified annual average modelled road contribution NO_x concentrations have then been converted into annual mean NO_2 concentrations by using the Defra NO_x to NO_2 spreadsheet (version 8.1).

LAQM.TG(16) advises that an exceedance of the 1 hour mean NO_2 objective is unlikely to occur where the annual mean concentration is below 60µg/m^3, where road transport is the main source of pollution. This concentration has been used to screen whether the hourly mean objective is likely to be achieved.

Local monitoring data are not available for concentrations of PM_{10} and $PM_{2.5}$ and consequently, the predicted road-PM_{10} and road-$PM_{2.5}$ contributions have been adjusted using the factor calculated for road-NO_x, before adding the appropriate background concentrations. This approach is consistent with guidance given in LAQM.TG(16).

Once processed, the predicted concentrations (full results presented in section 5) were compared against the current statutory limit values and objectives for NO_2, PM_{10} and $PM_{2.5}$ set out in Table 2.1.

4.2 Uncertainties and Assumptions

The following uncertainties and assumptions have been made in the air quality assessment:

- There will be uncertainties introduced because the modelling has simplified real-world processes into a series of algorithms. For example, it has been assumed that wind conditions measured at Nottingham Watnall in 2019 were representative of wind conditions at the site, as this meteorological station is the nearest station where the required meteorological data for predicting air quality impacts of the proposed development are measured on routine basis.

- An important step in the assessment is verifying the dispersion model against measured data. The model verification was based on the comparison of model results based on 2019 traffic data with 2019 measured roadside NO_2 diffusion tube data. As no PM_{10} or $PM_{2.5}$ monitoring data were available near the site area, the adjustment factors used for the predicted roadside NO_x concentrations have been applied to the predicted PM_{10} and $PM_{2.5}$ concentrations, as per guidance in LAQM.TG(16).
- There is an element of uncertainty in all measured and modelled data. All values presented in this report are best possible estimates.

5 AIR QUALITY IMPACT ASSESSMENT

5.1 Dispersion Modelling Results

Detailed dispersion modelling has been undertaken with the use of the ADMS-Roads dispersion model software, following guidance in accordance with LAQM.TG(16). The modelled concentrations have been verified and results processed as detailed in section 4. Full details of the results are presented in Table 5.1 and are summarised below.

Nitrogen Dioxide – NO_2

The AQS objective for annual mean NO_2 concentrations is 40µg/m^3. Table 5.1 shows the annual mean NO_2 concentrations at modelled sensitive receptor locations. The results show that AQS objective were exceeded at R7-R13 and R34.

The exceedances predicted at R7-R13 are in line with the monitoring result at diffusion tube Site 12. Following a review of R7-R13 on the map, it is considered that the exceedances of AQS objective at these locations are due to the close proximity of these houses to the kerb of the road and the steep road gradient at this section of the road, combined with street canyon effects.

Whilst exceedance is predicted at R34 and along a short strength of Buxton Road at this location (see Figure C1 in Appendix C) where canyon effects have been modelled, there are no locations of relevant exposure for annual mean within the area of predicted exceedance.

It is noted that diffusion tube Site 9 which is located next to R34 did not measure an exceedance of the annual mean NO_2 AQS objective in 2019. This indicates that the model may have overestimated the street canyon effect at this location. LAQM.TG(16) states that '*Monitoring results, provided that they comply with QA/QC procedures and are located at suitable locations relevant of worst-case public exposure, should take precedence over modelling results. Therefore, if monitoring data do not indicate a likely exceedance of an air quality objective, there should be no need to declare an AQMA.*'. However, it is understood that there were only 5 months monitoring data captured at diffusion tube Site 9 during 2019. It is therefore, recommended that monitoring at diffusion tube Site 9 is continued and reviewed as more data becomes available. In 2020 and continuing into 2021, the outbreak of coronavirus (Covid-19) has had a notable impact on everyday life including the traffic on our road networks. Generally, during lockdown restrictions there has been a decrease in traffic and associated congestion in many areas. However, there are many factors to consider (including differing local restrictions throughout the pandemic, local road closures, advise not to use public transport at times, etc.) and therefore the return to pre-pandemic traffic flows will vary based on location. The air quality monitoring data in 2020 and 2021 is considered likely to be affected by the change in traffic flows related to the Covid-19 pandemic. Therefore, monitoring data during this period should be treated with caution and where available changes to local traffic flows should also be considered. It is recommended that a more detailed review of monitoring data at this location is undertaken in 2022 and going forward.

The contour plot of predicted 2019 annual mean NO_2 concentrations along Buxton Road is presented in Appendix C, which shows the area in which the AQS annual mean NO_2 objective is predicted to exceed or be close to exceedance (i.e. within 10% of the objective) and provides an indication of where an AQMA may be declared; however consideration should also be given to whether the areas (i.e. Buxton Road and St John Street) of predicted exceedance include any relevant receptors for the annual mean AQS objective.

It is noted that diffusion tube Site 19 had a monitored annual mean NO_2 concentration of 57.42µg/m^3 in 2019. However, the contour plot (as shown in Figure C1, Appendix C) shows that exceedance of AQS annual mean NO_2 objective is not anticipated in this area. It should be noted that there were only 5 months' monitoring data captured at this location during 2019. Furthermore, this location is sited in an area with trees overhanging and surrounding, which may impede the circulation of air around the tube and therefore, monitoring data at this location should be treated with caution.

LAQM.TG(16) notes that 'exceedances of the 1-hour mean objective for NO_2 are only likely to occur where annual mean concentrations are 60µg/m^3 or above'. Annual mean NO_2 concentrations (see Table 5.1) are not predicted to exceed 60µg/m^3 at any receptors. Therefore, it is considered that exceedance of the 1-hour mean objective for NO_2 is unlikely at these receptor locations or in the vicinity of these locations.

Particulate Matter - PM_{10} and $PM_{2.5}$

The AQS objective for annual mean PM_{10} concentrations is 40µg/m^3. The results show that predicted annual mean PM_{10} concentrations for all receptor locations will be well below the objective. The AQS target objective for annual mean $PM_{2.5}$ concentrations is 25µg/m^3. The results show that predicted annual mean $PM_{2.5}$ concentrations for all receptor locations will be well below the objective.

Table 5.1: Model Results – 2019 Baseline

Receptor	Annual Mean NO_2 Concentration (µg/m^3)	Annual Mean NO_2 Concentration as % of AQAL	Annua Mean PM_{10} Concentration (µg/m^3)	Annual Mean PM_{10} Concentration as % of AQAL	Annaul Mean $PM_{2.5}$ Concentration (µg/m^3)	Annual Mean $PM_{2.5}$ Concentration as % of AQAL
R1	27.17	68%	10.67	27%	6.94	28%
R2	26.81	67%	10.54	26%	6.86	27%
R3	26.94	67%	10.56	26%	6.87	27%
R4	26.51	66%	10.47	26%	6.82	27%
R5	26.81	67%	10.52	26%	6.85	27%
R6	28.88	72%	10.99	27%	7.12	28%
R7	**45.49**	**114%**	13.77	34%	8.89	36%
R8	**46.64**	**117%**	13.98	35%	9.01	36%
R9	**46.46**	**116%**	13.94	35%	8.99	36%
R10	**46.25**	**116%**	13.90	35%	8.96	36%
R11	**45.9**	**115%**	13.83	35%	8.92	36%

Receptor	Annual Mean NO_2 Concentration ($\mu g/m^3$)	Annual Mean NO_2 Concentration as % of AQAL	Annua Mean PM_{10} Concentration ($\mu g/m^3$)	Annual Mean PM_{10} Concentration as % of AQAL	Annaul Mean $PM_{2.5}$ Concentration ($\mu g/m^3$)	Annual Mean $PM_{2.5}$ Concentration as % of AQAL
R12	**46.03**	**115%**	13.86	35%	8.94	36%
R13	**45.72**	**114%**	13.80	34%	8.90	36%
R14	26.72	67%	10.61	27%	7.00	28%
R15	24.81	62%	10.27	26%	6.80	27%
R16	24.06	60%	10.16	25%	6.73	27%
R17	24.91	62%	10.43	26%	6.93	28%
R18	24.29	61%	10.33	26%	6.87	27%
R19	24.27	61%	10.32	26%	6.87	27%
R20	24.29	61%	10.33	26%	6.87	27%
R21	24.34	61%	10.33	26%	6.87	27%
R22	24.44	61%	10.35	26%	6.88	28%
R23	24.59	61%	10.37	26%	6.90	28%
R24	24.71	62%	10.38	26%	6.91	28%
R25	24.93	62%	10.42	26%	6.93	28%
R26	25.38	63%	10.48	26%	6.96	28%
R27	26.42	66%	10.45	26%	6.81	27%
R28	26.27	66%	10.64	27%	7.06	28%
R29	24.01	60%	10.15	25%	6.73	27%
R30	25.22	63%	10.46	26%	6.95	28%
R31	24.86	62%	10.40	26%	6.92	28%
R32	26.7	67%	10.68	27%	7.08	28%
R33	30.26	76%	11.14	28%	7.37	29%
R34	**49.72**	**124%**	14.02	35%	9.12	36%
R35	28.64	72%	10.98	27%	7.26	29%
R36	26.49	66%	10.62	27%	7.05	28%
R37	28.02	70%	10.85	27%	7.18	29%
R38	30.28	76%	11.15	28%	7.37	29%
R39	31.5	79%	11.37	28%	7.50	30%
R40	31.44	79%	11.04	28%	7.48	30%
Bold indicates exceedances of AQS Objective						

6 CONCLUSIONS AND RECOMMENDATIONS

DDDC has monitored exceedances of annual mean NO_2 concentrations on Buxton Road, Ashbourne compared to the National Air Quality Strategy objectives. A Detailed Assessment has been carried out by RSK to review and analyse the annual mean NO_2, PM_{10} and $PM_{2.5}$ concentrations at relevant sensitive receptor locations along Buxton Road.

Dispersion modelling has been undertaken with the use of the ADMS-Roads dispersion model software, following guidance in accordance with LAQM.TG(16). The modelled NO_2 concentrations have been verified using the measured 2019 annual mean NO_2 concentration at diffusion tube Site 12. Due to the lack of PM_{10} or $PM_{2.5}$ monitoring data available in the local area, adjustment factor used for the predicted roadside NO_x concentrations were applied to the modelled PM_{10} and $PM_{2.5}$ concentrations, as recommended by LAQM.TG(16).

The model results suggest that the annual mean AQS objective for NO_2 was exceeded at R7-R13 and R34. The objectives for PM_{10} and $PM_{2.5}$ are predicted to be met at all modelled receptors. It should be noted that, whilst exceedance is predicted at R34 and along a short strength of Buxton Road at this location (see Figure C1 in Appendix C) where canyon effects have been modelled, there are no locations of relevant exposure for annual mean within the area of predicted exceedance.

It is noted that there is currently no continuous monitoring station within Ashbourne. Should there be an option to install a continuous monitoring station in the future, it is recommended that the monitoring station could be placed outside Saint John the Baptist Church, where exceedance of annual mean NO_2 concentrations were monitored across the road.

Based on the results of this Detailed Assessment and a review of local air quality data, it is recommended that:

- Consider declaration of an AQMA along Buxton Road, where exceedances of the annual mean NO_2 objective are predicted. The contour plot of predicted annual mean NO_2 concentrations along Buxton Road is presented in Appendix C. The contour map displays the areas in which the AQS annual mean NO_2 objective is exceeded or approaching exceedance and provides an indication of where the AQMA should be located. However, consideration should also be given to whether the areas (i.e. Buxton Road and St John Street) of predicted exceedance include any relevant receptors for the annual mean AQS objective.
- Continue monitoring NO_2 within the areas where predicted annual mean NO_2 concentrations are above 36µg/m^3. These areas are within 10% of the annual mean NO_2 objective of 40µg/m^3 (i.e. approaching the objective and allowing for

model uncertainty). Continue NO_2 monitoring within these areas will ensure that any future changes in annual mean NO_2 concentrations are detected.

- It is noted that diffusion tube Site 19 is located in an area with trees overhanging and surrounding. AEA Energy & Environment '*Diffusion tubes for ambient NO_2 monitoring: practical guidance for laboratories and users*' (2008) states that '*Care must be taken to avoid any very localised sources, or sinks of NO_2, or disturbances to the airflow. For example, close proximity (less than 10 m) to … Bushes or trees overhanging or surrounding the tube location…*'. It is therefore recommended that diffusion tube Site 19 should be relocated to another roadside location, where there is free circulation and no trees/bushes.
- Update the classification of diffusion tube Site 8 and Site 11 as roadside location and select a new urban background NO_2 monitoring location situated further away from any busy road.
- It is understood that a new bypass between the A52 Mayfield Road and A515 Buxton Road, bypassing Ashbourne town centre to the west of the town, is currently being considered by DCC, aiming to resolve traffic and air quality issues within the town of Ashbourne, Derbyshire. With the bypass in place, less traffic will travel through Ashbourne on Buxton Road and will likely improve air quality along Buxton Road. It is recommended that an updated air quality assessment be undertaken once further information becomes available for the bypass.

7 REFERENCES

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APPENDIX A - TRAFFIC DATA

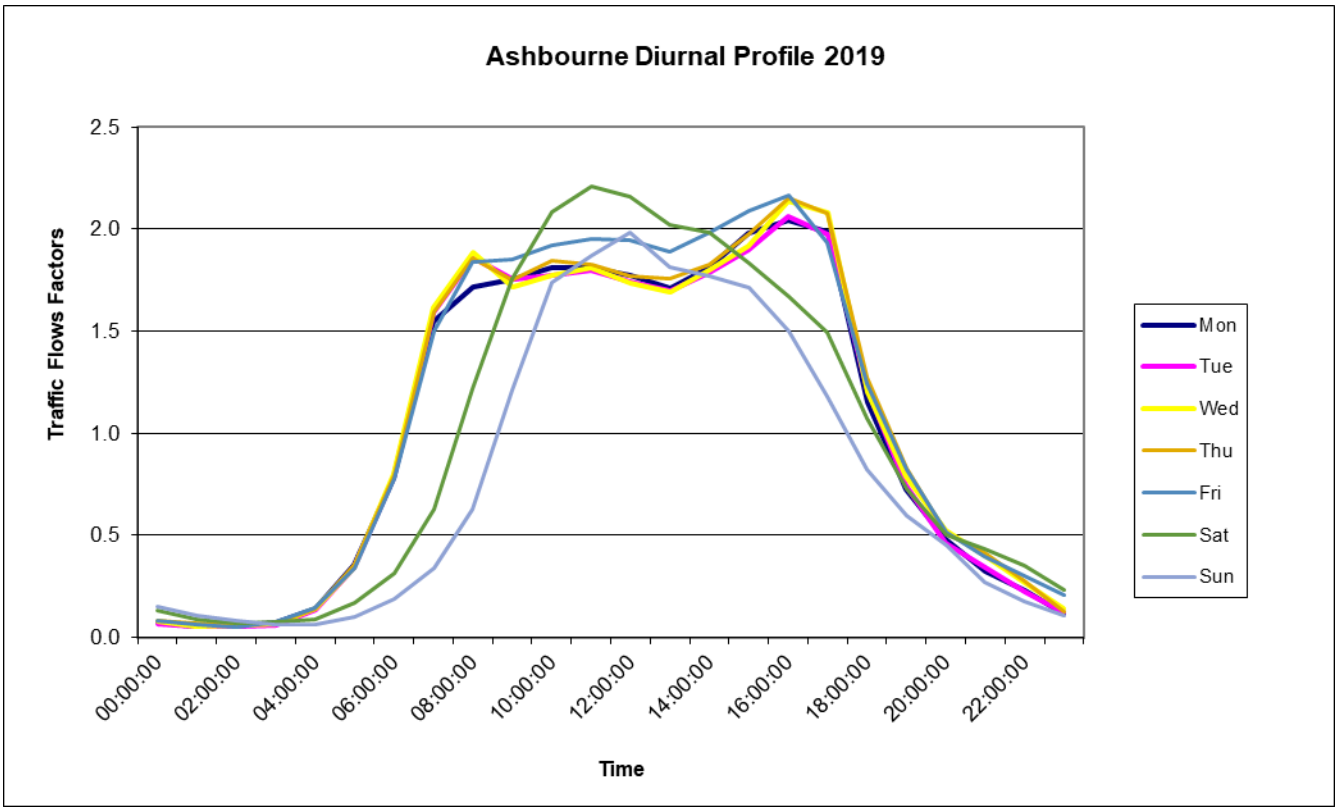
This appendix contains the traffic data used in the dispersion modelling assessment, provided by the Transport Consultants from DCC and AECOM. Included are traffic flow data in 24-hour daily flows, percentage Heavy Duty Vehicle (HDV), the speed data for each road link and the diurnal profile used. Reduced speeds were used at junctions and known areas of congestion.

Table A1: 24-hour Traffic Flows (AADT) and Speed Data used in the Dispersion Modelling Assessment

Ref	Road Link	Average Speed (kph)	2019 Base	
			Total AADT	HDV%
L1 (NB)	A515 Buxton Road (North of Windmill Ln) - NB	58.9	4067	8.6%
L1 (SB)	A515 Buxton Road (North of Windmill Ln) - SB	56.3	3753	9.7%
L2 (NB)	A515 Buxton Road (Between Windmill Ln and King St) - NB	44.0	4073	8.8%
L2 (SB)	A515 Buxton Road (Between Windmill Ln and King St) - SB	44.5	2458	15.1%
L3 (NB)	A515 Buxton Road (Between King St and St John St) - NB	27.6	4422	8.9%
L3 (SB)	A515 Buxton Road (Between King St and St John St) - SB	27.7	2624	15.0%
L4 (EB)	North Avenue (EB)	34.8	142	1.3%
L4 (WB)	North Avenue (WB)	44.9	1591	0.3%
L5 (NB)	Windmill Lane (NB)	43.1	284	3.2%
L5 (SB)	Windmill Lane (SB)	33.9	432	3.0%
L6 (NEB)	Union St (NEB)	30.1	288	5.6%
L6 (SWB)	Union St (SWB)	28.0	1343	1.6%
L7 (NEB)	King St (NEB)	27.5	628	6.3%
L7 (SWB)	King St (SWB)	19.3	1500	2.1%
L8	St John St (West of Buxton Road)	38.5	6396	8.1%
L9	St John St (East of Buxton Road)	26.7	4598	11.3%

Note: Speed data was provided by the transport consultant. Lower speeds were used at junctions and known areas of congestion as appropriate.

Figure A2: Diurnal Profile Included in the Dispersion Modelling Assessment



APPENDIX B – VERIFICATION METHODOLOGY AND MODEL RESULTS

The dispersion model results were verified following the relevant guidance in LAQM.TG(16). Predicted results from a dispersion model may differ from measured concentrations for a variety of reasons, these are identified in LAQM.TG(16) to include:

- Estimates of background concentrations;
- Meteorological data uncertainties;
- Uncertainties in source data for example, traffic flow data, stack emissions and emission factors;
- Model input parameters such as roughness length, minimum Monin-Obukhov and overall model limitations; and,
- Uncertainties associated with monitoring data, including locations.

There are seven diffusion tube locations within Ashbourne. Five of them (i.e. Site 8, 9, 12, 19 and 20) are located within the study area where traffic data is available. Site 8, 9, 19 and 20 only have 5 months' data capture in 2019, therefore these locations have been excluded from model verification. Site 12 (Buxton Road, Ashbourne) has a full year's data capture and is a roadside location, 2019 monitored annual mean NO_2 concentration from this location has therefore been used to verify predicted NO_x concentrations.

Tables B1- B3 present details of the monitoring location used and the dispersion model verification process.

Table B1: Monitoring Location used in Verification Process

Site ID	Receptor Location	Grid Reference		Height (m)
		X	Y	
DT12	Buxton Road, Ashbourne	417988	346935	1.5

Table B2: Modelled versus Monitored NO_x/NO_2

Site	Monitored total NO_2	Background NO_2	Monitored Road Contribution NO_x	Modelled road contribution NO_x	Ratio of Modelled and Measured Road NO_x
DT12	47	22.84	50.62	25.05	2.02

Table B3: Difference between Monitored and Modelled Following Adjustment

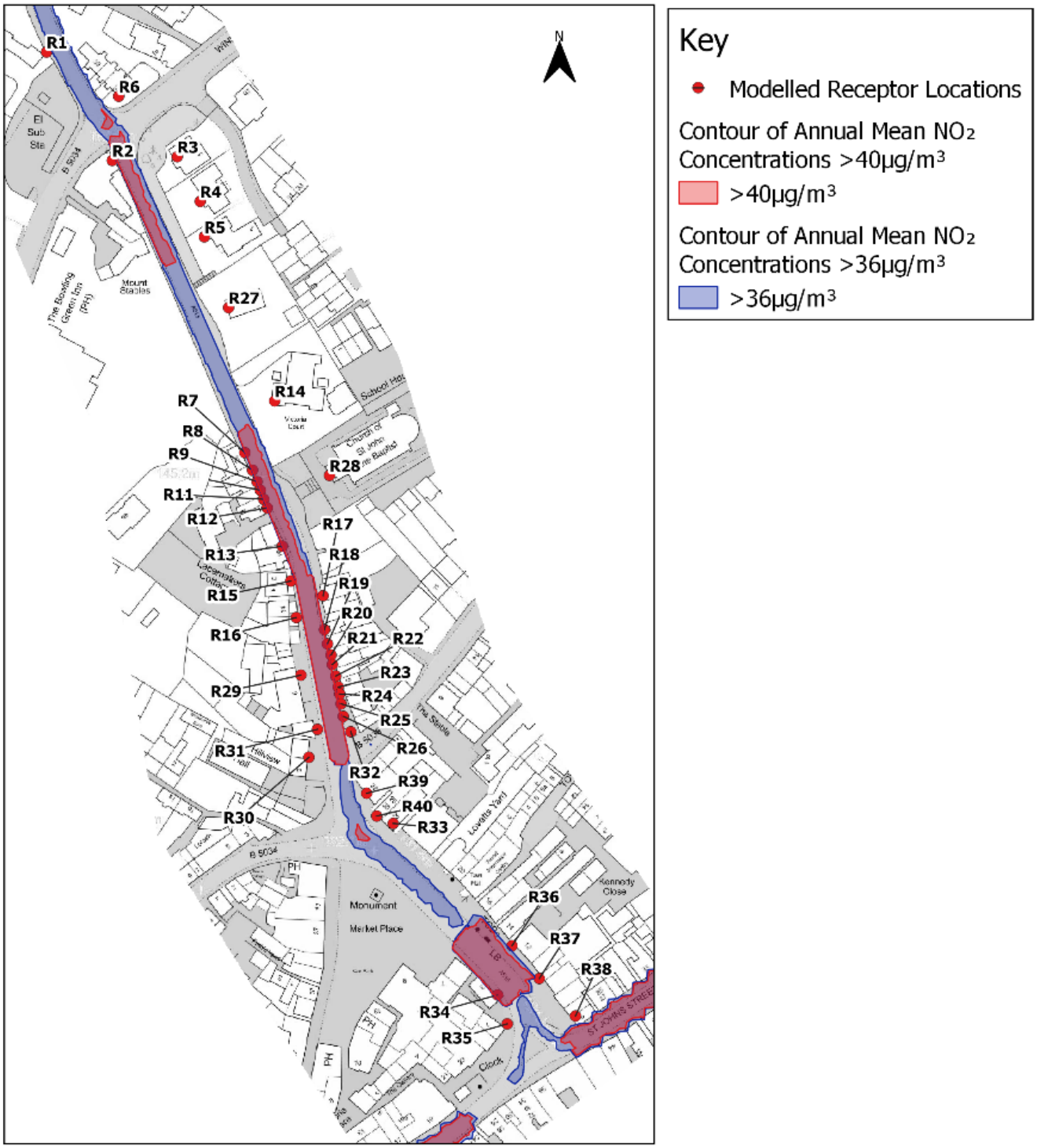
Site	Adjustment factor for modelled road contribution	Adjusted modelled road contribution NO_x	Modelled total NO_2 (based on empirical NO_x/NO_2 relationship)	Monitored Total NO_2	% Difference [(modelled - monitored)/monitored] x100
DT12	2.02	50.62	47	47	0

An adjustment factor of **2.02** was obtained and applied to the modelled road-NO_x component predicted at all receptors. The verified annual mean modelled road contribution NO_x concentrations have then been converted into annual mean road NO_2 by using the Defra NO_x to NO_2 spreadsheet; a comparison of monitored and model adjusted NO_2 is presented in Table B3. This shows that, following adjustment, the modelled NO_2 result is within +/- 25% of monitored NO_2 concentrations. In accordance with the LAQM.TG(16) guidance, it is not considered that further verification is required.

It is noted that there was no PM_{10} or $PM_{2.5}$ monitoring data available in the vicinity of the proposed development. Therefore, as per the recommendations in LAQM.TG(16), adjustment factors used for the predicted roadside NOx concentrations were applied to the modelled PM_{10} and $PM_{2.5}$ concentrations.

APPENDIX C – CONTOUR PLOT

Figure C1: Contour Plot of Annual Mean NO_2 Concentrations (µg/m³)



ENVIRONMENT ACT 1995 PART IV - SECTION 83(1)
ORDER DESIGNATING AN AIR QUALITY MANAGEMENT AREA
DERBYSHIRE DALES DISTRICT COUNCIL

Derbyshire Dales District Council ("the Council") in exercise of the powers conferred upon it by Section 83(1) of the Environment Act 1995, hereby makes the following Order:

This order may be referred to as the

DERBYSHIRE DALES DISTRICT COUNCIL AIR QUALITY MANAGEMENT AREA (No.2; NO_2) ORDER 2021

and shall come into effect on the xxxxx 2021

The area shown in red on the attached map (Appendix 1) is to be designated as an Air Quality Management Area ("the designated area"). The designated area incorporates Buxton Road, Ashbourne from the Windmill/North Lane junction to the junction of St Johns Street and St Johns Street, Ashbourne from the junction of Cockayne Avenue and Park Road to 22 St John's Street. This area is designated in relation to a likely breach of the NO_2 annual mean objective as specified in the Air Quality (England) Regulations 2000 (as amended).

The Order shall come into force on the xxxxxx 2021, and shall remain in force until varied or revoked by subsequent order.

The Order and attached map may be viewed on the Council website and at the Town Hall, Bank Road, Matlock, Derbyshire, DE4 3NN.

THE COMMON SEAL OF THE COUNCIL WAS HERETO AFFIXED ON THE xx DAY OF XXXXX 2021.

IN THE PRESENCE OF:

.....
Authorised Signatory

Appendix 1 – Boundary of Buxton Road Air Quality Management Area

MAP TO BE ADDED

NOT CONFIDENTIAL – For public release **Item No. 7**

COMMUNITY & ENVIRONMENT COMMITTEE
07 APRIL 2021

Report of the Director of Community & Environmental Services

CEMETERY CONSECRATIONS

PURPOSE OF REPORT

The report seeks authority to make necessary arrangements with the Diocese of Derby for consecrations in three cemeteries within the Derbyshire Dales.

RECOMMENDATION

1. That the Council grant permission for designated land at the following cemeteries, Bakewell, Brassington and Steeple Arch in Wirksworth to be consecrated.

2. The Neighbourhoods Manager or the Clean and Green Manager be given authority on behalf of the Council to sign any documents required to facilitate the consecration of land at the Bakewell, Brassington and Steeple Arch in Wirksworth cemeteries.

WARDS AFFECTED

Bakewell, Carsington Water and Masson.

STRATEGIC LINK

The provision of burial grounds and cemeteries accords with the District Council's priority aims of leading the communities of the Derbyshire Dales, improving the quality of life, protecting and enhancing the environment and providing excellent services.

1 BACKGROUND

1.1 Cemeteries and burial grounds fall under the remit of the Community & Environment Committee and, as there is no officer delegation to cover the consecration of land, consent is sought to arrange consecrations, with the Diocese of Derby, for the three areas of land as detailed in the report.

2 REPORT

Brassington

2.1 The existing Brassington Cemetery was constructed by the District Council and is managed by Brassington Parish Council who contacted the District Council in late 2020 to advise that a number of families had asked for their loved ones to be buried in consecrated ground and were allocated plots in part of the cemetery that was believed to be consecrated. However, it has now come to light that this area within the cemetery is not consecrated.

2.2 Brassington Parish Council have sought and gained the permission from the families

buried in that area to have the land consecrated in order to meet the families wishes and requested that the District Council as The Burial Authority and landowner make appropriate arrangements.

2.3 As an interim measure the affected burial plots on the 11th September 2020, blessed by the Reverend Canon David Charles Truby in the presence of a Parish Council representative and a legal document was signed to that effect.

Bakewell Cemetery

2.4 An additional piece of land in this cemetery has been developed and is now in use so appropriate arrangement needs to be made for its consecration.

Steeple Arch, Wirksworth

2.5 Plans are underway to carry out works to enable an extension of this cemetery which is likely to be completed by July so again appropriate consecration arrangements need to be put in place.

Arrangements with the Diocese of Derby

2.6 The Diocesan of Derby have indicated timescales for the ceremonies will be dependent on all the documentation being in order and will not be before May, as the Bishop of Repton designate is not due to consecrated bishop until the middle of April, at the earliest.

3 RISK ASSESSMENT

3.1 Legal

The Council as the land owner must consent to the land being consecrated and thus officers are seeking permission to allow for land owned by the Council so that the deceased can be buried in line with their wishes.

3.2 Financial

The costs of the works and preparations mentioned above can be accommodated from existing revenue or capital budgets. The financial risk is therefore assessed as low.

4 OTHER CONSIDERATIONS

In preparing this report, the relevance of the following factors has also been considered: prevention of crime and disorder, equalities, environmental, climate change, health, human rights, personnel and property.

The District Council is the Burial Authority for the District of Derbyshire Dales for the purposes of the Local Government Act 1972 Section 214 as amended.

5 CONTACT INFORMATION

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6 BACKGROUND PAPERS

None

7 ATTACHMENTS

None

NOT CONFIDENTIAL – For public release **Item No. 8**

COMMUNITY & ENVIRONMENT COMMITTEE
07 APRIL 2021

Report of the Director of Housing Services

COUNCIL HOUSING UPDATE REPORT

PURPOSE OF REPORT

The purpose of this report is to advise Members of the progress concerning the Council's housing programme. Having selected Nottingham Community HA as the Council's Development and Management Agent, work has been progressing to bring forward proposals that will see the first homes delivered in 2021/22.

RECOMMENDATION

That Members note the progress of the Council Housing programme.

WARDS AFFECTED

All

STRATEGIC LINK

The development of new council housing supports the Council's objective to enable and provide affordable homes. The rental income will also support the Council's wider objectives and deliver services to residents. 'Prosperity' is highlighted in the Corporate Plan 2020-24 as a District Council priority due to low local wages and high local house prices. With regard to the recommendations in this report, the District Council specifically aims to: Promote housing development that meets the needs of the present and future population of the District. Within this aim, there is an action to: Build new Council homes to rent and continue to build social rented homes in partnership with Housing Associations. There is also an action to: Review opportunities as we strive to be a more commercially-minded District Council. Delivering council homes to local people will help to meet housing need in the district and generate rental income to support the Council's wider strategic objectives.

1 BACKGROUND

1.1 At full Council on the 14th December 2020 Members approved the selection of Nottingham Community Housing Association (NCHA) to act as the Council's Development and Management Agent. Members also approved the recommendation that regular update reports should be brought to the Community and Environment Committee, concerning the progress of the business plan and performance of the chosen contractor. Since that time officers from both the Council and NCHA have begun to explore and take forward opportunities. NCHA have been very keen to pick up the opportunities officers had already identified and which had been previously reported in the previous business plans. In addition some new opportunities have already been identified.

1.2 NCHA have significant experience in the delivery of affordable housing and their expertise together with their existing presence in the district is proving particularly beneficial. Council previously approved a framework to guide officers on the application of the business plan and this is set below;

- Regeneration based investment: the Council has an active regeneration strategy focusing on Hurst Farm in Matlock. Investment in bringing empty homes back in to use will help to support the wider aims and objectives of the regeneration strategy.
- Issue based: empty homes are a significant issue in the private sector. Bringing empty homes back in to use as Council housing will provide a useful option for landlords who are struggling to do something positive with their property.
- Addressing market failure: there are small developments on the market with planning permission which have not progressed. A review of such opportunities could generate a way to help stimulate the local economy and bring forward development.
- Opportunity based: remaining council land that can be developed and minimises the Council's liabilities as a land owner. Whilst these opportunities are limited in size, they will allow a high specification of homes to be built
- Social housing management changes: the district has affordable stock from several housing associations. In recent years some associations have sold their stock to other associations and effectively left the district. There is scope for this trend to continue and as such represents one way of adding stock to the Council's portfolio
- Homelessness: we anticipate increasing repossessions and evictions in the private sector due to the economic impact of covid19. Council investment can help prevent homelessness by buying properties, subject to a maximum price. It is possible that a government programme designed to specifically address mortgage rescue will be made available through Homes England.
- Area based: investing in popular residential areas in towns and villages. Buying back former Right To Buy homes (where it is financially viable) can help sustain levels of affordable homes in locations where it could take many years to deliver a new build scheme.
- Economy based: making selective purchases on new build schemes to support developers in financial risk
- Disability based: securing land or property to make provision for disabled people or families
- Environmental based: allocating an additional £10,000 of investment for new build homes and empty homes brought back in to use, to exceed the standards set out in the Building Regulations.
- Needs based: over 50% of the applicants on the Housing Register are single people. The purchase and conversion of suitable homes in to flats would help to meet housing need.

Constraints

- Value based: there are some schemes we will be unable to afford e.g. an empty home over £150,000
- Viability appraisals will inform the decision of each opportunity in much the same way that housing associations already use them to assess potential schemes. Some schemes will simply be too expensive and will not be taken forward
- Tenure based: standard tenures such as affordable rent and shared ownership attract grant funding from Homes England and in the case of social rent are

affordable to all. Whilst there are emerging tenures around discounted sale, these are not part of the business plan and should not be considered.

- Undue competition with prospective first time buyers: the Council's business plan limits purchase of empty homes to a value of £150,000. This figure is within the realms of that which local first time buyers could afford.

1.3 Recent enquiries from owners of discounted properties has indicated that such homes could be another source of potential stock. In the 1980s and 90s the Council provided land for development at a discount. Developers then built homes and sold them at a discount, reflecting the Council's contribution. Discounts range from 17% to 24%. The discount remains in force through a covenant.

1.4 The scheme has several challenges because over time the value of the discount has increased with house price inflation. A discount of 24% at 1990 prices was relatively small at the time whereas at today's values, the discount is substantial. The mechanism for selling the property is also cumbersome because owners have to notify the Council of the proposed sale, the Housing team then advertise the property for a month before nominating any potential purchasers. In the vast majority of cases the Council is unable to nominate a potential buyer because of the affordability issues many of those on the housing register face.

1.5 It is therefore suggested that the purchase of discounted properties is added to the framework outlined in paragraph 1.3 with each opportunity considered on a case by case basis. Where the purchase price exceeds the business plan limit after the discount is applied and there is a substantial unmet housing need in the locality, the Director of Housing will consult with the Chairman and Vice Chairman of the Committee together with Ward Members before taking forward any proposal to make an offer to buy a property.

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1.7 The scheme has several challenges because over time the value of the discount has increased with house price inflation. A discount of 24% at 1990 prices was relatively small at the time whereas at today's values, the discount is substantial. The mechanism for selling the property is also cumbersome because owners have to notify the Council of the proposed sale, the Housing team then advertise the property for a month before nominating any potential purchasers. In the vast majority of cases the Council is unable to nominate a potential buyer because of the affordability issues many of those on the housing register face.

1.8 It is therefore suggested that the purchase of discounted properties is added to the framework outlined in paragraph 1.3 with each opportunity considered on a case by case basis. Where the purchase price exceeds the business plan limit after the discount is applied and there is a substantial unmet housing need in the locality, the Director of Housing will consult with the Chairman and Vice Chairman of the Committee together with Ward Members before taking forward any proposal to make an offer to buy a property.

2 UPDATED BUSINESS PLAN

2.1 Several opportunities are set out in the report below. Some of the details at this stage remain in outline form because there is still work to do in relation to consulting Town and Parish Councils and some sites are commercially sensitive.

2.2 Officers had previously identified the sites below which could deliver 26 homes;

- Station House, Matlock. Consultation with ward members has taken place and pre application advice has been sought from the Council's Development Control Team. If approved the proposal would see the conversion of the building to 2x1 bedroom flats. This scheme is in the capital programme.
- District Council owned site Edgefold Road. Pre application advice is being sought for 4x1 bedroom flats
- District Council owned site Kirk Ireton. Pre application advice is being sought for 2 bungalows
- District Council owned site in Wirksworth. A viability appraisal concerning up to 8 homes is underway.
- A property and capital funding bequeathed to the Council remains in probate.
- Ashbourne S106 opportunity. NCHA are taking forward the purchase of 7 houses for the Council at £1 per property as part of a planning gain site. Some costs will be incurred to finish the homes to the social housing standard. These will be set out in a future report.
- An empty property on Hurst Farm.
- A discounted property in Darley Dale offered to the Council by a private landlord

2.3 Further additional opportunities are also being appraised concerning 20+ homes including;

- Two empty private sector homes will be identified and taken forward during 2021/22. The objective is to target homes which have been empty for more than 2 years and which can be brought back in to use within the limits imposed by the business plan.

- An existing social landlord is seeking to dispose of a lease concerning 5 rented homes at nil cost to the new landlord. The lease can be transferred to the Council on favorable terms. An assessment of the condition of the properties and consultation with the various parties is ongoing. The ward member has been advised of this opportunity.

- Up to 3 S106 opportunities are also likely to come forward over the next 18 months comprising up to 13 units in total. These opportunities are a good fit with the business plan because of the low numbers involved. They are also of limited interest to much larger housing providers and so support the Council's wider strategic objectives.

2.4 There are several other opportunities that are too early to outline at this stage, but as with all development programmes, there is an element of risk and uncertainty that some opportunities will not come to fruition whilst others will replace them. Future reports to this Committee and the annual report to full Council will keep Members fully informed of progress.

2.5 Several sites will require capital funding through financing by the District Council and grant from Homes England. The housing element of the capital programme has £4,424,298 available. The financial appraisals of several sites are yet to be completed but the current programme would only use a fraction of the available resources.

2.6 One of the key considerations in the programme is the ability to deliver homes with high energy efficiency performance. On new build the aim is to achieve EPC rating A, and on retrofit of existing properties to achieve EPC B. However each scheme will be reviewed on its own merits. NCHA have in house expertise that is also helping them to deliver high energy efficiency standards in their own development programme. NCHA also have a tried and tested approach to their Employers Requirements which set out contractor's obligations and include the detailed requirements for delivering the homes and other quality issues ranging from space standards to provision of toilet roll holders.

2.7 At this point in time the outline programme could deliver 46 of the planned 52 homes over the next 2 years. The first properties should come in to ownership as early as Q2 with more in Q3 of 2021/22.

2.8 As set out in the November 2020 report to Council, the programme focuses on low risk opportunities and standard tenure types for which grant funding is available through Homes England, namely affordable rent and shared ownership. The property types will also reflect local housing need with 50% of the Housing Register comprising single people, development of 1 and 2 bedroom properties is key.

2.9 Rental income from the homes will be a new revenue stream for the Council. The business plan projected income of £200,000 per year, after costs, with 52 homes in ownership.

3 RISK ASSESSMENT

3.1 Legal

As this report is to note the current progress there are no decision to be taken thus the legal risk is low.

3.2 Financial

Current capital resources that are available more than exceed the requirement for the schemes identified in this report.

As stated above, rental income from the homes will be a new revenue stream for the Council. A small proportion of the rental income will need to be set aside each year, in a new Housing Major Repairs Allowance Reserve, to finance future works such as replacement of kitchens, bathrooms and windows.

The financial risk of this report is assessed as low.

4 OTHER CONSIDERATIONS

4.1 In preparing this report, the relevance of the following factors has also been considered: prevention of crime and disorder, equalities, environmental, climate

change, health, human rights, personnel and property.

5 CONTACT INFORMATION

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6. BACKGROUND PAPERS

Report to Full Council 14th December 2020

BACK TO AGENDA