



2015 Air Quality
Updating and Screening Assessment
report for
Test Valley Borough Council

In fulfillment of Part IV of the
Environment Act 1995
Local Air Quality Management

Date: April 2015

Test Valley Borough Council

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Executive Summary

Local Authorities in the UK have the statutory duty to review and assess air quality on a regular basis which involves the production of reports on a three year cycle. This 2015 report is the first part of Round 6 of the Review and Assessment process requiring the submission of an Updating and Screening Assessment (USA) report by the 30th April 2015. The USA report is intended to identify potential areas within the Borough where emissions from a range of sources could adversely impact sensitive receptors.

Firstly, the USA report considers the nitrogen dioxide monitoring carried out in 2014 at 17 locations. Secondly, the assessment consists of applying various screening criteria for the purpose of considering whether new or significantly changed sources of air pollutants may lead to an exceedance of an Air Quality Objective (AQO) for any of the seven key pollutants.

Road transport is one of number of sources of local air pollution within Test Valley and national air quality data has shown a decrease in air pollution levels in recent years. This trend is also reflected in the Council's own monitoring (2010–2014) which has indicated a small to moderate downward trend at 14 of the nitrogen dioxide (NO₂) diffusion tube monitoring locations. Population exposure to traffic-related pollutants is expected to be relatively high near major roads with a high percentage of Heavy Goods Vehicles, at busy road junctions and in narrow and congested town centre streets.

Based on the findings of this USA report, Test Valley Borough Council has found no evidence that the concentration of any of these seven pollutants may exceed the specific AQO and therefore has not identified the need to proceed to a Detailed Air Quality Assessment.

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1 Introduction

1.1 Description of Local Authority Area

Test Valley lies on the western side of Hampshire and to the north of the Southampton conurbation. The borough covers 628 square kilometres (243 square miles) and includes the two market towns of Romsey and Andover. The population of the borough in 2015 is estimated at 119,900 based on the 2013 Small Area Population Forecast.

One of the main sources of air pollution within the borough is generated from road traffic using the network of major and minor roads which run through Test Valley. In the south of the borough there is an 8.5km section of the M27 motorway and on the southern outskirts of Andover is the A303 of which around 26km passes through the borough. In addition to these two main traffic routes, there is a short section the A34 (around 1.3km) which runs north-south on the eastern side of the borough at Upper/Lower Bullington and approximately 3km of the A36 in the southwest of the borough at West Wellow.

Although there are no other major sources of air pollution from industrial processes within the borough, there are 46 Part B installations permitted by Test Valley under the Environmental Permitting (England & Wales) Regulations 2010 and one Part A2 installation. In addition, there are a further 12 sites which have Environmental Permits for Industrial Installations issued by the Environment Agency.

1.2 Purpose of Report

This report fulfils the requirements of the Local Air Quality Management process as set out in Part IV of the Environment Act (1995), the Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007 and the relevant Policy and Technical Guidance documents. The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether or not the air quality objectives are likely to be achieved. Where exceedences are considered likely, the local authority must then declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in pursuit of the objectives.

The objective of this Updating and Screening Assessment (USA) is to identify any matters that have changed which may lead to risk of an air quality objective being exceeded. A checklist approach and screening tools are used to identify significant new sources or changes and whether there is a need for a Detailed Assessment. The USA report should provide an update of any outstanding information requested previously in Review and Assessment reports.

1.3 Air Quality Objectives

The air quality objectives applicable to LAQM in England are set out in the Air Quality (England) Regulations 2000 (SI 928), The Air Quality (England) (Amendment) Regulations 2002 (SI 3043), and are shown in Table 1.1. This table shows the objectives in units of microgrammes per cubic metre $\mu\text{g}/\text{m}^3$ (milligrammes per cubic metre, mg/m^3 for carbon monoxide) with the number of exceedences in each year that are permitted (where applicable).

Table 1.1 Air Quality Objectives included in Regulations for the purpose of LAQM in England

| Pollutant | Air Quality Objective | | Date to be achieved by |
|---|---|---------------------|------------------------|
| | Concentration | Measured as | |
| Benzene | 16.25 $\mu\text{g}/\text{m}^3$ | Running annual mean | 31.12.2003 |
| | 5.00 $\mu\text{g}/\text{m}^3$ | Running annual mean | 31.12.2010 |
| 1,3-Butadiene | 2.25 $\mu\text{g}/\text{m}^3$ | Running annual mean | 31.12.2003 |
| Carbon monoxide | 10.0 mg/m^3 | Running 8-hour mean | 31.12.2003 |
| Lead | 0.5 $\mu\text{g}/\text{m}^3$ | Annual mean | 31.12.2004 |
| | 0.25 $\mu\text{g}/\text{m}^3$ | Annual mean | 31.12.2008 |
| Nitrogen dioxide | 200 $\mu\text{g}/\text{m}^3$ not to be exceeded more than 18 times a year | 1-hour mean | 31.12.2005 |
| | 40 $\mu\text{g}/\text{m}^3$ | Annual mean | 31.12.2005 |
| Particles (PM ₁₀) (gravimetric) | 50 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 35 times a year | 24-hour mean | 31.12.2004 |
| | 40 $\mu\text{g}/\text{m}^3$ | Annual mean | 31.12.2004 |
| Sulphur dioxide | 350 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 24 times a year | 1-hour mean | 31.12.2004 |
| | 125 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 3 times a year | 24-hour mean | 31.12.2004 |
| | 266 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 35 times a year | 15-minute mean | 31.12.2005 |

1.4 Summary of Previous Review and Assessments

Set out below is a summary of Rounds 4 and 5 Review & Assessment reports which are all available on the Test Valley Borough Council website.

Review and Assessment - Round 5

Part 3 - April 2014 Progress Report

The 2014 Progress Report was carried out by staff of the Housing & Environmental Health Service and considered the results of nitrogen dioxide monitoring carried out in 2013 at 17 sites. In addition, the assessment consisted of applying various screening criteria for the purpose of considering whether new or significantly changed sources of air pollutants may lead to an exceedence of an Air Quality Objective for any of the seven key pollutants.

Road transport is one of the main sources of local air pollution in Test Valley and UK Trends in NO₂ (2004 – 2009) have been weakly downward in the range 0.5 – 1.0% per year with rural sites showing a greater decrease ≈ 1.4% per year. This trend is also reflected in the Council's own monitoring (2009 – 2013) which has indicated a small downward trend at all 17 sites.

Based on the findings of this report, Test Valley Borough Council found no evidence that the levels of any of these seven pollutants may exceed the specific Air Quality Objectives and therefore did not identify the need to proceed to a Detailed Assessment.

The April 2014 Progress Report is published on the Council's website at:
<http://www.testvalley.gov.uk/assets/files/6365/April-2014-Progress-Report.pdf>.

Part 2 - April 2013 Progress Report

The 2013 Progress Report was carried out by staff of the Housing & Environmental Health Service and considered the results of nitrogen dioxide monitoring carried out in 2012 at 17 sites. In addition, the assessment consisted of applying various screening criteria for the purpose of considering whether new or significantly changed sources of air pollutants may lead to an exceedence of an Air Quality Objective for any of the seven key pollutants.

Road transport is one of the main sources of local air pollution in Test Valley and UK trends in NO₂ (2004 – 2009) have been weakly downward in the range 0.5 – 1.0% per year with rural sites showing a greater decrease ≈ 1.4% per year. This trend is also reflected in the Council's own monitoring (2008 – 2012) which has indicated a small downward trend at 13 of the 17 sites.

Based on the findings of this report, Test Valley Borough Council found no evidence that the levels of any of these seven pollutants may exceed the specific Air Quality Objectives and therefore did not identify the need to proceed to a Detailed Assessment.

The April 2013 Progress Report is published on the Council's website at:
<http://www.testvalley.gov.uk/assets/files/4640/April-2013-Progress-Report.pdf>

Part 1 - April 2012 Updating & Screening Assessment

The 2012 Updating & Screening Assessment Report was carried out by staff of the Housing and Environmental Health Service in March/April 2012 and considered the results of nitrogen dioxide monitoring carried out in 2011 at 17 sites. In addition, the assessment consisted of applying various screening criteria for the purpose of considering whether new or significantly changed sources of air pollutants may lead to an exceedance of an Air Quality Objective for any of the seven key pollutants.

Road transport is one of the major sources of local air pollution in Test Valley and although national air quality data has shown a decrease in air pollution levels in recent years, the Council's own monitoring (2007 – 2011) indicated a slight upward trend at approximately half of the NO₂ tube locations. Population exposure to traffic related pollutants is expected to be relatively higher near major roads with a high percentage of HGV's, at busy road junctions, and in narrow and congested town centre streets.

Based on the findings of this *USA* report, Test Valley Borough Council found no evidence that the levels of any of these seven pollutants may exceed the specific Air Quality Objectives and therefore did not identify the need to proceed to a Detailed Assessment.

The April 2012 *USA* Report is published on the Council's website at:
<http://www.testvalley.gov.uk/assets/files/2380/TVBC-USA-Report-April-2012-.pdf>

Review and Assessment - Round 4

Part 3 - April 2011 Progress Report

The 2011 Progress Report was carried out by staff of the Housing, Health & Communities Service in March/April 2010 and considered the results of nitrogen dioxide monitoring carried out in 2010 at 17 sites. In addition, the assessment consisted of applying various screening criteria for the purpose of considering whether new or significantly changed sources of air pollutants may lead to an exceedance of an Air Quality Objective for any of the seven key pollutants.

Road transport is one of the main sources of local air pollution in Test Valley and although UK trends in NO₂ (2004 – 2009) have been decreasing in the range of 0.5 – 1.0% per year, the Council's own monitoring (2005 – 2010) has indicated a slight upward trend at all 17 sites. Population exposure to traffic-related pollutants is expected to be relatively higher near major roads with a high percentage of HGV's, at busy road junctions, and in narrow and congested town centre streets.

Based on the findings of this report, Test Valley Borough Council found no evidence that the levels of any of these seven pollutants may exceed the specific Air Quality Objectives and therefore did not identify the need to proceed to a Detailed Assessment.

The April 2011 Progress Report is published on the Council's website at:
<http://www.testvalley.gov.uk/assets/files/217/Air-Quality-Progress-Report-2011.pdf>

Part 2 - April 2010 Progress Report

The 2010 Progress Report was carried out by staff of the Housing, Health & Communities Service in March/April 2010 and considered the results of nitrogen dioxide monitoring carried out in 2009 at 21 sites. In addition, the assessment consisted of applying various screening criteria for the purpose of considering whether new or significantly changed sources of air pollutants may lead to an exceedence of an Air Quality Objective for any of the seven key pollutants.

Road transport is one of the major sources of local air pollution in Test Valley and although national air quality data has shown a decrease in air pollution levels in recent years, the Council's own monitoring (2005 – 2009) indicated a gradual upward trend. Population exposure to traffic-related pollutants is expected to be relatively higher near major roads with a high percentage of HGVs, at busy road junctions, and in narrow and congested town centre streets.

Based on the findings of this report, Test Valley Borough Council found no evidence that the levels of any of these seven pollutants may exceed the specific Air Quality Objectives and therefore did not identify the need to proceed to a Detailed Assessment.

The April 2010 Progress Report is published on the Council's website at:

<http://www.testvalley.gov.uk/assets/files/218/Air-Quality-Progress-Report-2010.pdf>

Part 1 - April 2009 Updating & Screening Assessment

The 2009 Updating & Screening Assessment (*USA*), carried out by staff of the Housing, Health & Communities Service in March/April 2009, considered the results of nitrogen dioxide monitoring carried out in 2008 at 21 sites. In addition, the assessment consisted of applying various screening criteria for the purpose of considering whether new or significantly changed sources of air pollutants may lead to an exceedence of an Air Quality Objective for any of the seven key pollutants.

Road transport is one of the major sources of local air pollution in Test Valley and although national air quality data has shown a decrease in air pollution levels in recent years, the Council's own monitoring (2004 – 2008) indicated a gradual upward trend in some areas. Population exposure to traffic-related pollutants is expected to be relatively higher near major roads with a high percentage of HGV's, at busy road junctions, and in narrow and congested town centre streets.

Based on the findings of this *USA* report, Test Valley Borough Council found no evidence that the levels of any of these seven pollutants may exceed the specific Air Quality Objectives and therefore did not identify the need to proceed to a Detailed Assessment.

The April 2009 *USA* Report is published on the Council's website at:

<http://www.testvalley.gov.uk/assets/files/219/Air-Quality-Progress-Report-2009.pdf>

2 New Monitoring Data

2.1 Summary of Monitoring Undertaken

2.1.1 Automatic Monitoring Sites

Test Valley Borough Council currently has no automatic monitoring sites within its area.

2.1.2 Non-Automatic Monitoring Sites

The nitrogen dioxide diffusion tubes used by Test Valley Borough Council in 2014 were supplied and analysed by Environmental Scientifics Group (ESG) based in Didcot, Oxfordshire. The method of analysis is 50% TEA in Acetone and the ESG laboratory is UKAS accredited. ESG confirm that their laboratory follows the procedures set out in the Practical Guidance document.

Test Valley Borough Council does not have a co-location study included with their current diffusion tube monitoring program. A bias adjustment factor of **0.81** has been used for the 2014 data which was obtained from the Defra website at:

http://laqm.defra.gov.uk/documents/Database_Diffusion_Tube_Bias_Factors-v03_15-Final.xls.

The non-automatic monitoring carried out by Test Valley Borough Council during 2014 comprised of 17 nitrogen dioxide diffusion tubes positioned at selected kerbside, roadside, intermediate and urban background locations. Details of these sites are set out in Table 2.1 and location plans can be found in Appendix C.

In order for the results from the use of diffusion tubes to be of an adequate quality, the diffusion tubes used by Test Valley Borough Council are located in accordance with the guidance set out in the AEA Energy & Environment report entitled 'Diffusion Tubes for Ambient NO₂ Monitoring: Practical guidance for Laboratories and Users'.

Table 2.1 Details of Non- Automatic Monitoring Sites

| Site ID | Site Type | OS Grid Ref | Pollutant Monitored | In AQMA? | Relevant Exposure? Yes / No (distance to relevant exposure) | Distance to kerb of nearest road (n/a if not applicable) | Worst-case location ? |
|---------|------------------|----------------------|---------------------|----------|---|---|-----------------------|
| ROM1 | Urban background | X 435382 Y 121377 | NO ₂ | N | Yes (Property façade) | n/a | N |
| ROM2 | Roadside | X 435135 Y 121461 | NO ₂ | N | Yes (Property façade) | 1m | Y |
| ROM3 | Roadside | X 435205 Y 121147 | NO ₂ | N | Yes (Property façade) | 1.3m | Y |
| ROM5A | Roadside | X 435474 Y 121089 | NO ₂ | N | No (3 metres) | 1.1m | Y |
| ROM7 | Roadside | X 435480 Y 121103 | NO ₂ | N | Yes (Property façade) | 2.3m | Y |
| ROM8 | Roadside | X 435867 Y 121277 | NO ₂ | N | No (-2 metres) | 4.5m | Y |
| ROM9 | Roadside | X 435697 Y 121244 | NO ₂ | N | Yes (Property façade equivalent) | 2m | Y |
| ROM10 | Roadside | X 435630 Y 121403 | NO ₂ | N | No (6 metres) | 2.6m | Y |
| CHIL12 | Roadside | X 441760 Y 118091 | NO ₂ | N | No (18 metres) | 1m | Y |
| CHIL13 | Intermediate | X 442137 Y 117670 | NO ₂ | N | Yes (Property façade equivalent) | 24m | N |
| CHIL14 | Intermediate | X 442264 Y 117625 | NO ₂ | N | Yes (Property façade equivalent) | 23m | Y |
| AND15 | Intermediate | X 435923 Y 145408 | NO ₂ | N | Yes (Property façade) | 14m | N |
| AND19 | Urban background | X 435848 Y 145599 | NO ₂ | N | No (12 metres) | n/a | N |
| AND20 | Kerbside | X 436499 Y 144935 | NO ₂ | N | No (6 metres) | 1.8m | Y |
| AND22 | Urban background | X 436362 Y 144854 | NO ₂ | N | No (8.5 metres) | n/a | N |
| AND23 | Urban background | X 435865 Y 144430 | NO ₂ | N | Yes (Property façade) | n/a | N |
| AND25 | Roadside | X 435741 Y 144232 | NO ₂ | N | No (4 metres) | 1.8m | Y |

2.2 Comparison of Monitoring Results with Air Quality Objectives

2.2.1 Nitrogen Dioxide

Based on the January – December 2014 diffusion tube results, the annual mean objective for NO₂ was not exceeded at any of the 17 monitoring locations.

Automatic Monitoring Data

Test Valley Borough Council does not carry out automatic monitoring of any pollutants.

Diffusion Tube Monitoring Data

The survey methodology and diffusion tube locations remain unchanged from those reported in the April 2014 Progress Report. The location plans for the 17 nitrogen dioxide diffusion tubes can be found in Appendix B and a corresponding set of 5-year trend charts can be found in Appendix D.

Table 2.2 Results of NO₂ Diffusion Tubes 2014

| Site ID | Location | Site Type | Within AQMA? | Triplicate or Co-located Tube | Number of Months Data Capture (percentage) ^a | Confirm if data has been distance corrected (Y/N) | Annual mean concentration - Bias Adjustment factor = 0.81 ^b 2014 (µg/m ³) |
|---------|--|------------------|--------------|-------------------------------|---|---|--|
| ROM1 | Station Road, Romsey | Urban background | N | N | 12 | N | 15.6 |
| ROM2 | Cherville Street, Romsey | Roadside | N | N | 11 (91.6%) | N | 15.8 |
| ROM3 | Bell Street, Romsey | Roadside | N | N | 11 (91.6%) | N | 20.9 |
| ROM5A | Palmerston Street, Romsey (west) | Roadside | N | N | 11 (91.6%) | N | 35.0 |
| ROM7 | Palmerston Street, Romsey (east) | Roadside | N | N | 12 | N | 32.1 |
| ROM8 | Plaza Roundabout, Romsey | Roadside | N | N | 12 | N | 35.2 |
| ROM9 | Alma Road, Romsey (south) | Roadside | N | N | 12 | N | 29.4 |
| ROM10 | Alma Road, Romsey (middle) | Roadside | N | N | 12 | N | 28.6 |
| CHIL12 | Chilworth Road, Chilworth | Roadside | N | N | 12 | N | 37.7 |
| CHIL13 | Winchester Road, Chilworth | Intermediate | N | N | 12 | N | 24.9 |
| CHIL14 | Bracken Place, Chilworth | Intermediate | N | N | 12 | N | 28.0 |
| AND15 | Weyhill Road, Andover | Intermediate | N | N | 11 (91.6%) | N | 18.2 |
| AND19 | St. John the Baptist Church, Alexandra Road, Andover | Urban background | N | N | 12 | N | 13.8 |
| AND20 | Humberstone Road, Andover (east) | Kerbside | N | N | 12 | N | 19.2 |
| AND22 | Humberstone Road, Andover (west) | Urban background | N | N | 12 | N | 13.6 |
| AND23 | Barlows Lane, Andover (north) | Urban background | N | N | 12 | N | 14.9 |
| AND25 | Barlows Lane, Andover (south) | Roadside | N | N | 11 (91.6%) | N | 16.6 |

In bold, exceedence of the NO₂ annual mean AQS objective of 40µg/m³

Underlined, annual mean > 60µg/m³, indicating a potential exceedence of the NO₂ hourly mean AQS objective

^a Means should be “annualised” as in Box 3.2 of TG(09) (<http://laqm.defra.gov.uk/technical-guidance/index.html?d=page=38>), if full calendar year data capture is less than 75%

^b If an exceedence is measured at a monitoring site not representative of public exposure, NO₂ concentration at the nearest relevant exposure should be estimated based on the “NO₂ fall-off with distance” calculator (<http://laqm.defra.gov.uk/tools-monitoring-data/no2-falloff.html>), and results should be discussed in a specific section. The procedure is also explained in Box 2.3 of Technical Guidance LAQM.TG(09) (<http://laqm.defra.gov.uk/technical-guidance/index.html?d=page=30>).

Table 2.3 Results of Nitrogen Dioxide Diffusion Tubes (2010 to 2014)

| Site ID | Site Type | Within AQMA? | Annual Mean Concentration ($\mu\text{g}/\text{m}^3$) - Adjusted for Bias | | | | |
|---------|------------------|--------------|--|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| | | | 2010 (Bias Adjustment Factor = 0.84) | 2011 (Bias Adjustment Factor = 0.84) | 2012 (Bias Adjustment Factor = 0.79) | 2013 (Bias Adjustment Factor = 0.80) | 2014 (Bias Adjustment Factor = 0.81) |
| ROM1 | Urban background | N | 18.1 | 17.5 | 15.5 | 15.1 | 15.6 |
| ROM2 | Roadside | N | 19.8 | 18.8 | 17.1 | 19.8 | 15.8 |
| ROM3 | Roadside | N | 27.9 | 23.2 | 20.3 | 21.6 | 20.9 |
| ROM5A | Roadside | N | 34.7 | 37.9 | 33.6 | 33.4 | 35.0 |
| ROM7 | Roadside | N | 34.0 | 33.0 | 29.5 | 29.4 | 32.1 |
| ROM8 | Roadside | N | 29.7 | 30.3 | 28.4 | 27.6 | 35.2 |
| ROM9 | Roadside | N | 27.5 | 30.2 | 27.8 | 30.2 | 29.4 |
| ROM10 | Roadside | N | 30.9 | 30.1 | 29.6 | 30.8 | 28.6 |
| CHIL12 | Roadside | N | 35.6 | 38.8 | 36.9 | 35.1 | 37.7 |
| CHIL13 | Intermediate | N | 25.7 | 27.8 | 25.2 | 26.0 | 24.9 |
| CHIL14 | Intermediate | N | 29.7 | 29.0 | 26.9 | 28.0 | 28.0 |
| AND15 | Intermediate | N | 22.5 | 21.8 | 20.2 | 18.5 | 18.2 |
| AND19 | Urban background | N | 15.8 | 15.0 | 14.9 | 14.8 | 13.8 |
| AND20 | Kerbside | N | 21.1 | 18.9 | 18.8 | 20.2 | 19.2 |
| AND22 | Urban background | N | 16.2 | 14.7 | 14.7 | 15.4 | 13.6 |
| AND23 | Urban background | N | 16.7 | 15.5 | 14.6 | 15.7 | 14.9 |
| AND25 | Roadside | N | 20.3 | 20.5 | 19.8 | 17.4 | 16.6 |

Based on the results of the annual mean NO₂ concentrations measured at diffusion tube monitoring sites between 2010 and 2014, a series of trend charts have been produced and these can be found in Appendix D on this report.

2.2.2 PM₁₀

Test Valley Borough Council does not carry out automatic monitoring of PM₁₀.

2.2.3 Sulphur Dioxide

Test Valley Borough Council does not carry out automatic monitoring of SO₂.

2.2.4 Benzene

Test Valley Borough Council does not carry out monitoring of Benzene.

2.2.5 Other pollutants monitored

Test Valley Borough Council does not carry out routine monitoring of any other pollutants.

2.2.6 Summary of Compliance with AQS Objectives

Test Valley Borough Council has examined the results from monitoring in the borough and concentrations are all below the objectives, therefore there is no need to proceed to a Detailed Assessment.

3 Road Traffic Sources

3.1 Narrow Congested Streets with Residential Properties Close to the Kerb

Test Valley Borough Council confirms that there are no new/newly identified congested streets with a flow above 5,000 vehicles per day and residential properties close to the kerb, that have not been adequately considered in previous rounds of Review and Assessment.

3.2 Busy Streets Where People May Spend 1-hour or More Close to Traffic

Test Valley Borough Council confirms that there are no new/newly identified busy streets where people may spend 1 hour or more close to traffic.

3.3 Roads with a High Flow of Buses and/or HGVs.

The latest traffic flow data (Appendix B) obtained from the Strategic Transport Team at Hampshire County Council for the purposes of this Updating & Screening Assessment report indicates that there are currently no roads within Test Valley with unusually high proportions of Buses and/or HGVs.

Test Valley Borough Council confirms that there are no new/newly identified roads with high flows of buses/HDVs.

3.4 Junctions

Test Valley Borough Council's Senior Transportation Engineer has confirmed that no new/busy road junctions have been identified since the last Updating & Screening Assessment report was submitted in April 2012.

Test Valley Borough Council confirms that there are no new/newly identified busy junctions/busy roads.

3.5 New Roads Constructed or Proposed Since the Last Round of Review and Assessment

Test Valley Borough Council's Senior Transportation Engineer has also confirmed that there are a number of new roads which have been constructed within the borough, but they are all 'estate roads' serving the large new residential developments which are still under construction at the East Anton, Picket Piece and Picket Twenty areas of Andover and at Abbottswood in Romsey.

Test Valley Borough Council confirms that there are no new/proposed roads.

3.6 Roads with Significantly Changed Traffic Flows

Although the Council has not identified any roads within the borough with significantly changed traffic flows, the new Lidl Regional Distribution Centre (RDC) in Nursling, Southampton (currently under construction) will increase the volume and percentage of HGV's in the local area. An Air Quality Assessment submitted with the 2011 planning application (11/02859/FULLS) concluded that sensitive receptor locations adjacent to roads that are affected by additional vehicle movements generated by the RDC are predicted to experience a 'Negligible' impact.

Test Valley Borough Council confirms that there are no new/newly identified roads with significantly changed traffic flows.

3.7 Bus and Coach Stations

Advice has again been provided by Test Valley Borough Council's Planning Policy & Transport Service they confirm that there are no Bus/Coach Stations within the borough which have more than 2500 vehicle movements per day. Although precise bus movements are not available, the best estimates for bus movements at Andover Bus Station and Romsey Bus Station are 600 per day and 150 per day respectively.

Test Valley Borough Council confirms that there are no relevant bus stations in the Local Authority area.

4 Other Transport Sources

4.1 Airports

Although there are no airports within Test Valley, Southampton International Airport is located approximately 1.3 kilometres east of the parish of Chilworth in the southeast of the borough.

Test Valley Borough Council confirms that there are no airports in the Local Authority area.

4.2 Railways (Diesel and Steam Trains)

4.2.1 Stationary Trains

Advice provided by Hampshire County Council advises that there are no locations within the borough where diesel or steam trains are regularly stationary for periods of 15 minutes or more. The average period of time that trains are stationary is approximately 4 minutes at Romsey station and the longest period was approximately 7 minutes on a Sunday evening.

Test Valley Borough Council confirms that there are no locations where diesel or steam trains are regularly stationary for periods of 15 minutes or more, with potential for relevant exposure within 15-metres.

4.2.1 Moving Trains

There are no rail lines within Test Valley with a heavy traffic of diesel locomotives [Ref: Table 5.1, Technical Guidance LAQM.TG(09)].

Test Valley Borough Council confirms that there are no locations with a large number of movements of diesel locomotives, and potential long-term relevant exposure within 30-metres.

4.3 Ports (Shipping)

Test Valley has no coastline, the nearest port (shipping) being located in Southampton Docks (handling container vessels and cruise ships) which is approximately 3.5 kilometres southeast of the borough.

Test Valley Borough Council confirms that there are no ports or shipping that meets the specified criteria within the Local Authority area.

5 Industrial Sources

5.1 Industrial Installations

5.1.1 New or Proposed Installations for which an Air Quality Assessment has been Carried Out

No new or proposed installations which would require an Air Quality Assessment have been received by the Council since the last USA report in April 2012.

Test Valley Borough Council confirms that there are no new or proposed industrial installations for which planning approval has been granted within its area or nearby in a neighbouring authority.

5.1.1 Existing Installations where Emissions have increased substantially or New Relevant Exposure has been introduced

Based on a review of existing installations within the borough, none were found to have substantially increased emissions.

Test Valley Borough Council confirms that there are no industrial installations with substantially increased emissions or new relevant exposure in their vicinity within its area or nearby in a neighbouring authority.

5.1.2 New or Significantly Changed Installations with no previous Air Quality Assessment

Test Valley Borough Council confirms that there are no new or proposed industrial installations for which planning approval has been granted within its area or nearby in a neighbouring authority.

5.2 Major Fuel (Petrol) Storage Depots

There are no major fuel (petrol) storage depots within the Local Authority area.

5.3 Petrol Stations

Based on data collected as part of the Council's duties under the Environmental Permitting (England & Wales) Regulations 2010, none were found to meet the specified criteria requiring a detailed assessment.

Test Valley Borough Council confirms that there are no petrol stations meeting the specified criteria.

5.1 Poultry Farms

According to Environment Agency records there are four large poultry farms located within Test Valley which are permitted under the Environmental Permitting (England & Wales) Regulations 2010. Details of these poultry farms are as follows:

| Permit Reference | Name / location | Maximum no. of broilers |
|------------------|--|-------------------------|
| GP3636TT | Cowdown Poultry Farm, Goodworth Clatford | 50,000 |
| SP3133UX | Bluebell Poultry Farm, Andover | 94,000 |
| SP3933UJ | Hennings Poultry Farm, Andover | 160,000 |
| TP3337MF | Greenmeadows Poultry Farm, Grateley | 261,000 |

Further examination of the public register held by the Council indicates that the Greenmeadows Poultry Farm comprises of 6 broiler sheds which are ventilated by 'roof mounted fans'. As the threshold for mechanically ventilated sheds is 400,000, a Detailed Assessment of PM₁₀ is not required for this poultry farm.

Test Valley Borough Council confirms that there are no poultry farms meeting the specified criteria.

6 Commercial and Domestic Sources

6.1 Biomass Combustion – Individual Installations

Outline planning permission (07/01951/OUTN) was granted in 2007 for the installation of a 5MW biomass plant as part of a large commercial development at the former Andover Airfield [Note: biomass plant not constructed]. This was application was highlighted in the Council's 2012 USA report.

Since April 2012, two further planning applications for small scale biomass plants have been granted planning permission. The planning reference numbers for these two applications are 14/00232/FULLS and 14/00776/FULLN which include a 0.5MW plant and a 199kW plant respectively.

Test Valley Borough Council confirms that there are no biomass combustion plants in the Local Authority area.

6.1 Biomass Combustion – Combined Impacts

Based on advice from the Council's Planning & Building Service, there are no operational Biomass Combustion plants fitting the relevant criteria (50kw – 20MW units) operating within the borough.

Test Valley Borough Council confirms that there are no biomass combustion plants in the Local Authority area.

6.2 Domestic Solid-Fuel Burning

Based on Environmental Health records, almost all of the complaints relating to smoke and odour from domestic properties relates to either wood burning stoves or the burning of green waste on garden bonfires. It is likely that only a very small proportion of properties within the borough regularly use solid fuel.

Test Valley Borough Council confirms that there are no areas of significant domestic fuel use in the Local Authority area.

7 Fugitive or Uncontrolled Sources

Housing & Environmental Health records indicate that only a small number (fifteen complaints since May 2012) of problems relating to dust from muddy roads and construction/industrial sites have been received by the Council. These reported complaints were subsequently resolved by the site contractors and site operators.

Test Valley Borough Council confirms that there are no potential sources of fugitive particulate matter emissions in the Local Authority area.

8 Conclusions and Proposed Actions

8.1 Conclusions from New Monitoring Data

Based on nitrogen dioxide diffusion tube results for 2014, no exceedances of the current Air Quality Objective were identified. Nitrogen dioxide trend charts for all 17 diffusion tube locations utilising data from 2010 to 2014 are included in Appendix D. Of these 17 charts, fourteen show a 5-year trend for reducing levels of nitrogen dioxide, two show a trend for slightly increasing in levels of nitrogen dioxide and one indicates that levels are relatively unchanged over this period.

To date, Test Valley Borough Council has not identified any Air Quality Management Areas (AQMA) and the most recent monitoring data has not identified any potential areas which may exceed current Air Quality Objectives. The results from the Council's nitrogen dioxide diffusion tube survey will be closely monitored and the need for a detailed assessment will be reconsidered if appropriate.

8.1 Conclusions from Assessment of Sources

Based on the assessment of likely impacts of local developments in terms of traffic, transport, industrial, commercial, residential, fugitive emissions etc. it has been concluded that there have been no new or significantly changed sources of pollutants within the Borough which might result in any of the Air Quality Objective limits being exceeded.

8.2 Proposed Actions

Since we do not expect any of the seven Air Quality Objectives to be exceeded, Test Valley Borough Council does not intend to proceed to a detailed assessment for any these pollutants or to carry out any additional monitoring. Therefore, it is proposed to continue monitoring nitrogen dioxide (by diffusion tube) and prepare and submit a Progress Report by the end of April 2016.

9 References

AEA Energy & Environment (February 2008), Diffusion Tubes for Ambient NO₂ Monitoring: Practical Guidance for Laboratories and Users, AEAT/ENV/R/2504 - Issue 1a

Defra (February 2009), Part IV of the Environment Act 1995, Local Air Quality Management – Policy Guidance (PG09)

Defra (February 2009), Part IV of the Environment Act 1995, Local Air Quality Management – Technical Guidance LAQM.TG(09)

Appendix A: QA/QC Data

Factor from Local Co-location Studies (if available)

Test Valley Borough Council currently have no co-location studies.

Diffusion Tube Bias Adjustment Factors

The diffusion tubes used by Test Valley Borough Council are supplied and analysed (50% TEA in Acetone) by Environmental Scientifics Group (ESG) laboratories, Didcot, Oxfordshire. The bias adjustment factor of **0.81** for our 2014 diffusion tubes was obtained from the following website:

http://laqm.defra.gov.uk/documents/Database_Diffusion_Tube_Bias_Factors-v03_15-Final.xls.

Discussion of Choice of Factor to Use

Test Valley Borough Council currently uses the National Bias Adjustment Factors as we do not currently have the facility to calculate our own derived factor.

PM Monitoring Adjustment

Test Valley Borough Council currently have no co-location studies.

Short-term to Long-term Data adjustment

All 17 nitrogen dioxide diffusion tubes exceeded the minimum 90% capture rate therefore no adjustments of the data were necessary.

QA/QC of automatic monitoring

Test Valley Borough Council currently have no automatic monitoring sites.

QA/QC of diffusion tube monitoring

Test Valley Borough Council can confirm that as far as reasonably practicable, all 17 diffusion tubes are located in accordance with the guidance set out in the February 2008 AEA Energy & Environment report.

A copy of the "Summary of Precision Results for Nitrogen Dioxide Diffusion Tube Collocation Studies, by Laboratory" was downloaded from:

http://laqm.defra.gov.uk/documents/Tube_Precision_2015_version_03_15-Final.pdf.

Of the 22 studies which used ESG diffusion tubes during 2014, 13 studies indicated 'Good' precision with the remaining 9 indicating 'Poor' precision.

Appendix B: *Traffic data

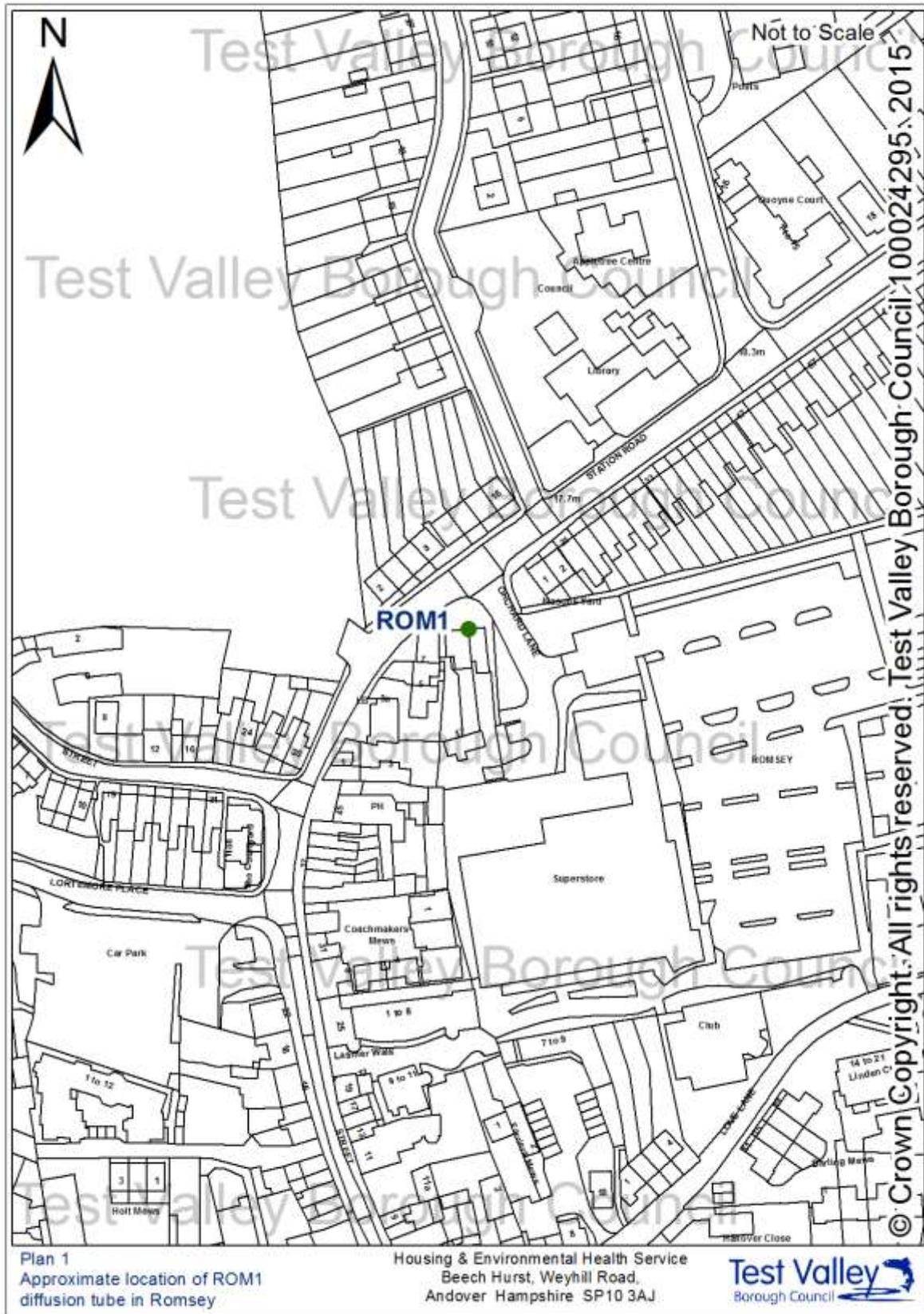
| Road No | Road Name | Data type AADT / 12 hr | Year | No. of vehicles | HGV's | Notes |
|---------|---|---|------|--------------------|----------|-----------------------------------|
| 1 | Weyhill Road, Andover | Combined Automatic 24 hr 7 Day Av Total | 2015 | 9711 | 2.10% | VDA Site 35452101 |
| 2 | Northern Avenue, Andover | Manual 12hr count | 2007 | 17927 | 2.20% | |
| 3 | Western Avenue, Andover | Manual 12hr count | 2011 | 14020 | 0.90% | |
| 4 | Redon Way, Andover | Manual 12hr count | 2011 | 10174 | 2.30% | |
| 5 | Churchill Way West, Andover | Manual 12hr count | 2012 | 20187 | 0.90% | |
| 6 | Eastern Avenue, Andover | Manual 12hr count | 2011 | 10452 | 0.80% | |
| 7 | A3093 Churchill Way, Andover | No data available | | | | |
| 8 | B3400 London Road | PERM SITE | 2014 | 3913 | 10.70% | 41460002 |
| 9 | A343 Newbury Road | PERM SITE | 2014 | 6792 | 2.10% | 3430035 |
| 10 | A342 Weyhill Road | 24 hr 7 Day Av. | 2010 | 12558 | No Class | 32460444 |
| 11 | A343 Salisbury Road | 24 hr 7 Day Av. | 2010 | 10445 | 6.90% | 30390442 |
| 12 | A303 Thruyton Bypass | AADT 2 Way 24 HR | 2014 | 35503 | No Class | TRADS 5203 East of Thruyton |
| 13 | A303 (between A343, Salisbury Road and Churchill Way West) | AADT 2 Way 24 HR | 2014 | 43495 | No Class | TRADS 3046 West of A343 |
| 14 | A303 (between A343, Salisbury Road and A3057) | AADT 2 Way 24 HR | 2014 | 46703 | No Class | TRADS 3048 |
| 15 | A303 (between A3057, Winchester Road and A3090 Churchill Way) | No data available | | | | |
| 16 | A303 (West of A34) | 24 HR AADT | 2010 | 51632 | 11.00% | 30012828 and 3053 |
| 17 | A303 (East of A34) | No data available | | | | |
| 18 | A34 (North of intersection with A303) | AADT 2 Way 24 HR | 2014 | 43973 | 14.40% | TRADS 3073 |
| 19 | A34 (South of intersection with A303) | AADT 2 Way 24 HR | 2013 | 48406 | No Class | TRADS 3071 |
| 20 | A3057 (between Stockbridge and Andover) | 24 hr 7 Day Av. | 2010 | 4838 | 7.00% | 37378459 |
| 21 | A30 (Stockbridge to A34) | PERM SITE | 2014 | 3984 | No Class | 300053 |
| 22 | A30 (West of Stockbridge) | Combined Automatic 24 hr 7 Day Av Total | 2007 | 3869 | No Class | 29357107 |
| 23 | A3057 (between Romsey & Stockbridge) | PERM SITE | 2014 | 5576 | No Class | 30570032 |
| 24 | A27 Salisbury Road | Combined Automatic 24 hr 7 Day Av Total | 2014 | 5069 | No Class | 30224279 |

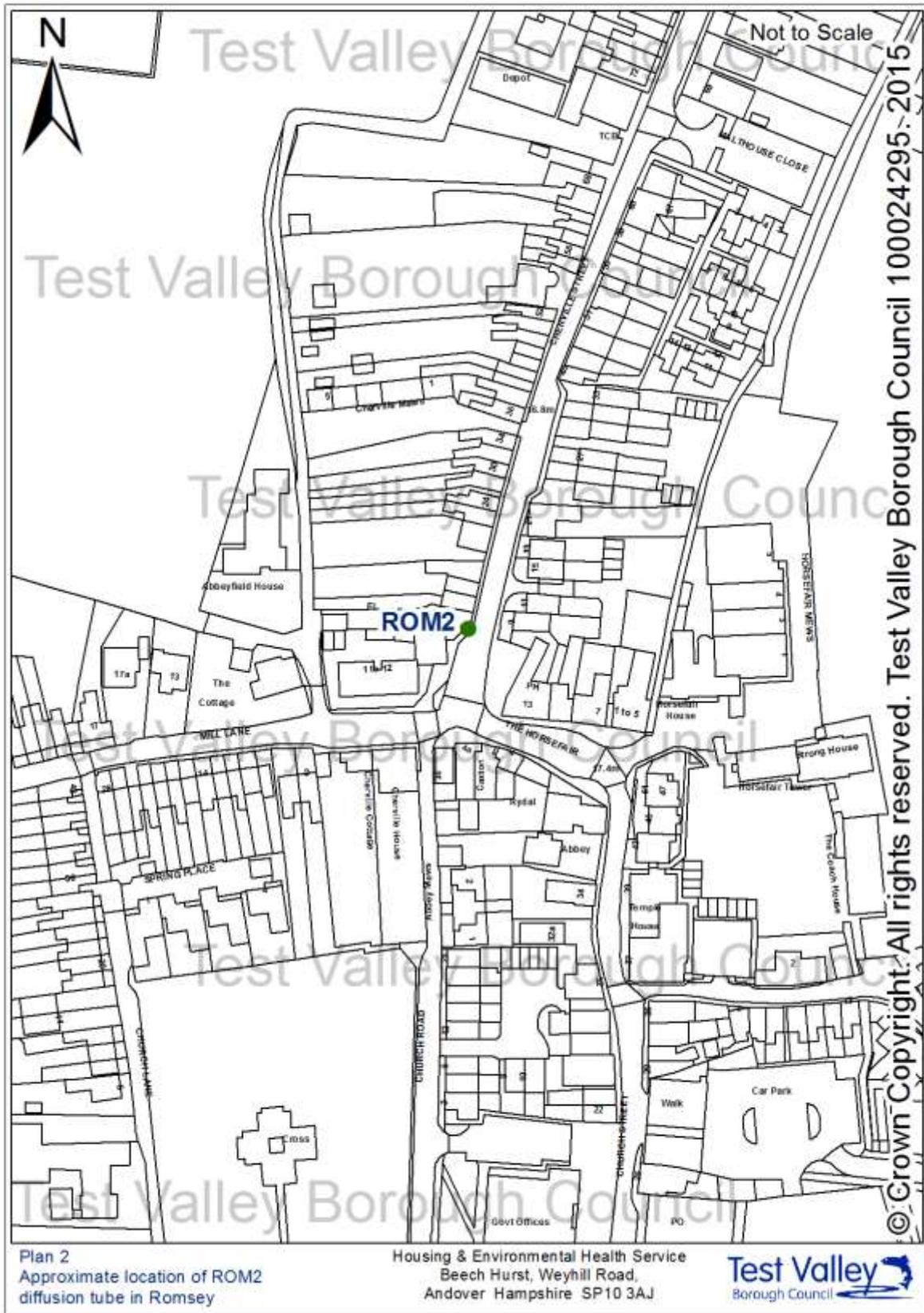
Test Valley Borough Council

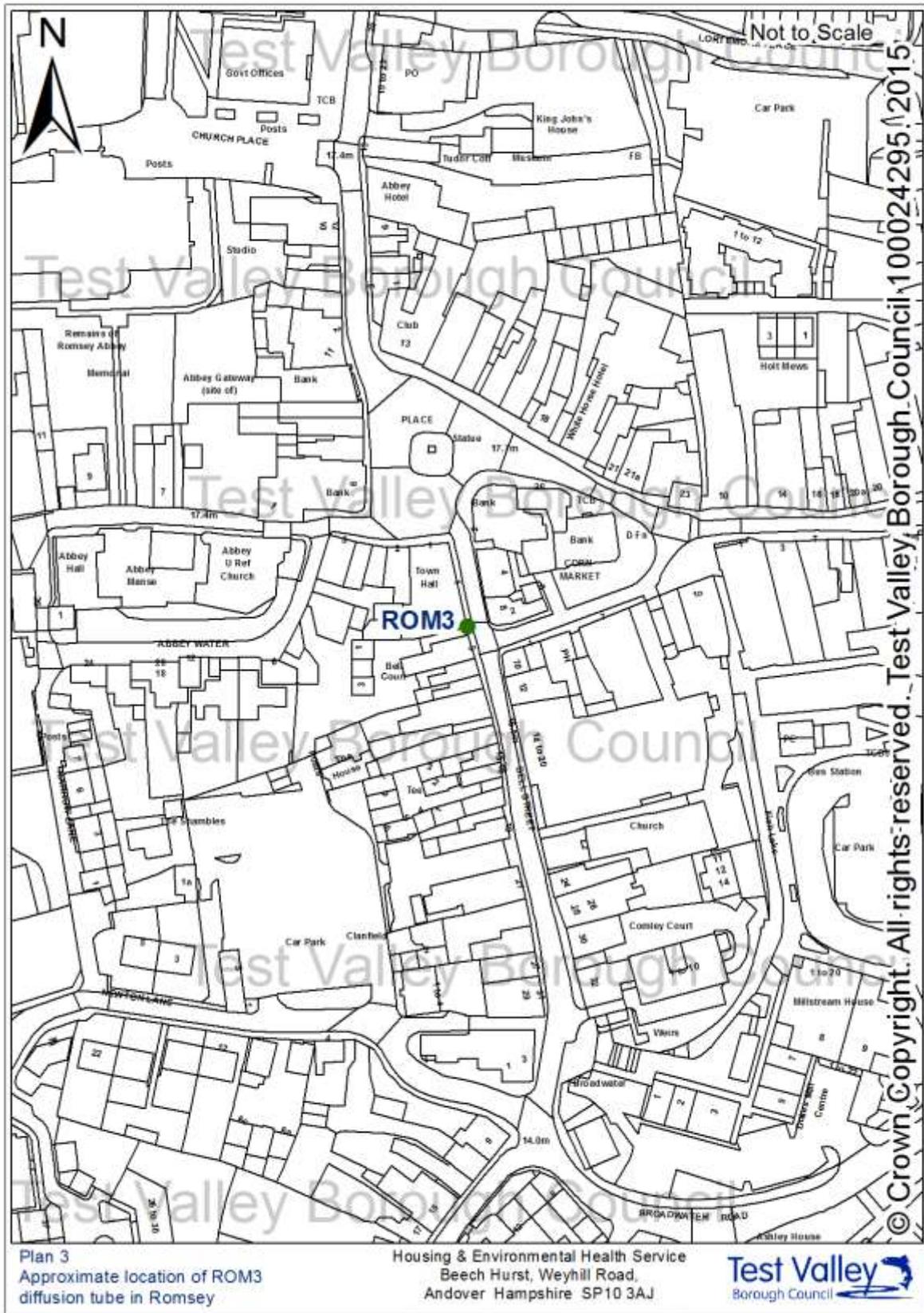
| | | | | | | |
|----|--|---|------|--------------------|------------------------|---------------|
| 25 | A3090 Romsey By Pass | PERM SITE | 2014 | 18105 | 8.80% | |
| 26 | A3090 Winchester Road | Combined Automatic 24 hr 7 Day Av Total | 2013 | 6479 | 3.30% | 37222452 |
| 27 | A27 Southampton Road, Romsey | Manual 12 hr Count | 2014 | 20131 | 3.60% | |
| 28 | A27 Luzborough Lane, Romsey | 24 hr 7 Day Av | 2010 | 10138 | No Class | 37200407 |
| 29 | A27 North Baddesley | Combined Automatic 24 hr 7 Day Av Total | 2010 | 7372 | No Class | 39190408 |
| 30 | A3090 Pouncefoot Hill, Romsey | Combined Automatic 24 hr 7 Day Av Total | 2013 | NB 7093 SB 7441 | NB 4.7 % , SB 4.5 % | 34203438 |
| 31 | A36 West Wellow | Combined Automatic 24 hr 7 Day Av Total | 2005 | 16333 | No Class | 27190002 |
| 32 | A3057 (between A27 & M271) | Combined Automatic 24 hr 7 Day Av Total | 2014 | 17507 | No Class | 36184213 |
| 33 | M27 (between J2 & J3) | AADT 1 Way 24 HR | 2014 | 48404 | 6.60% | TRADS 2933 |
| 34 | M271 (from A3057 to J3) | AADT 2 Way 24 HR | 2014 | 13897 | 4.40% | TRADS 2948 |
| 35 | A3057 (from M271 South to Southampton) | Combined Automatic 24 hr 7 Day Av Total | 2014 | 9214 | 2.30% | 37164216 |
| 36 | M27 (between J3 & J4) | AADT 2 Way 24 HR | 2013 | 124148 | 9.80% | TRADS 2935 |
| 37 | M27 (between J4 & J4A) | No data available | | | | |
| 38 | Winchester Road, Chilworth | Combined Automatic 24 hr 7 Day Av Total | 2013 | 11678 | 3.30% | 42173484 |
| 39 | A33 Chilworth to M3 J14 | No data available | | | | |
| 40 | M3 (between J14 & J13) | 24 HR AADT | 2010 | 94587 | 8.40% | TRADS |
| 41 | M27 (between J4 & J5) | No data available | | | | |

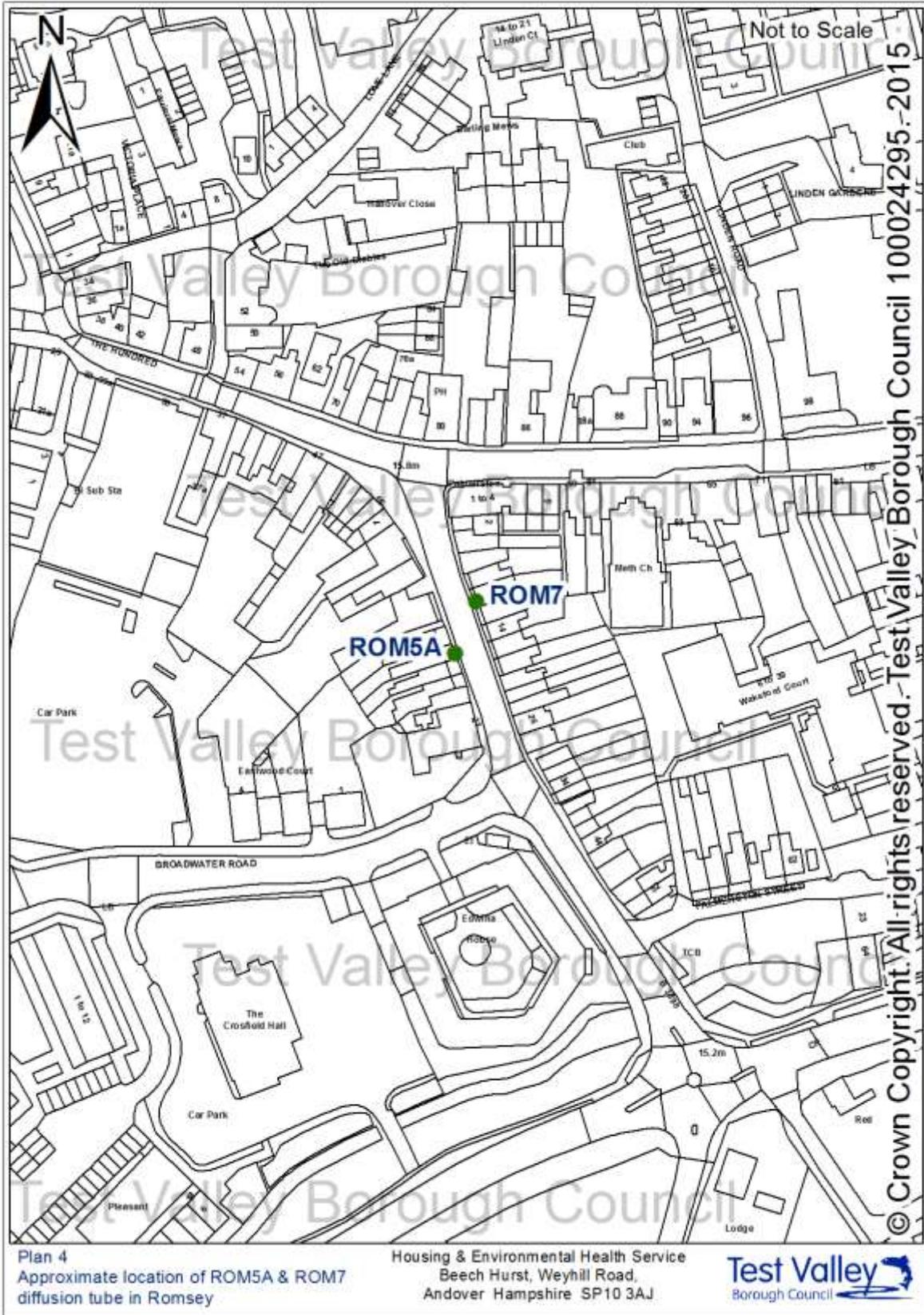
*Data provided by Hampshire County Council

Appendix C: NO₂ tube location plans

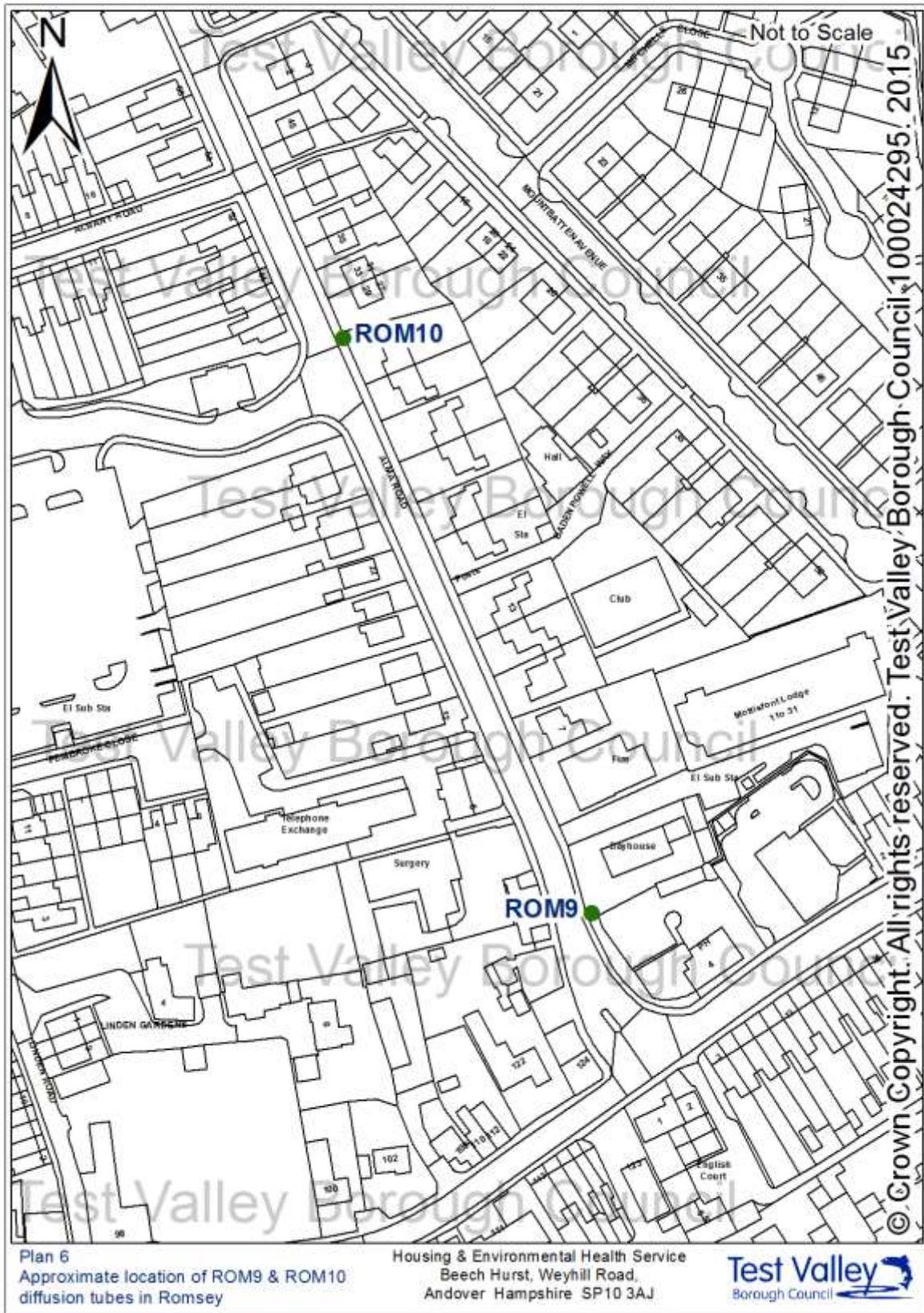




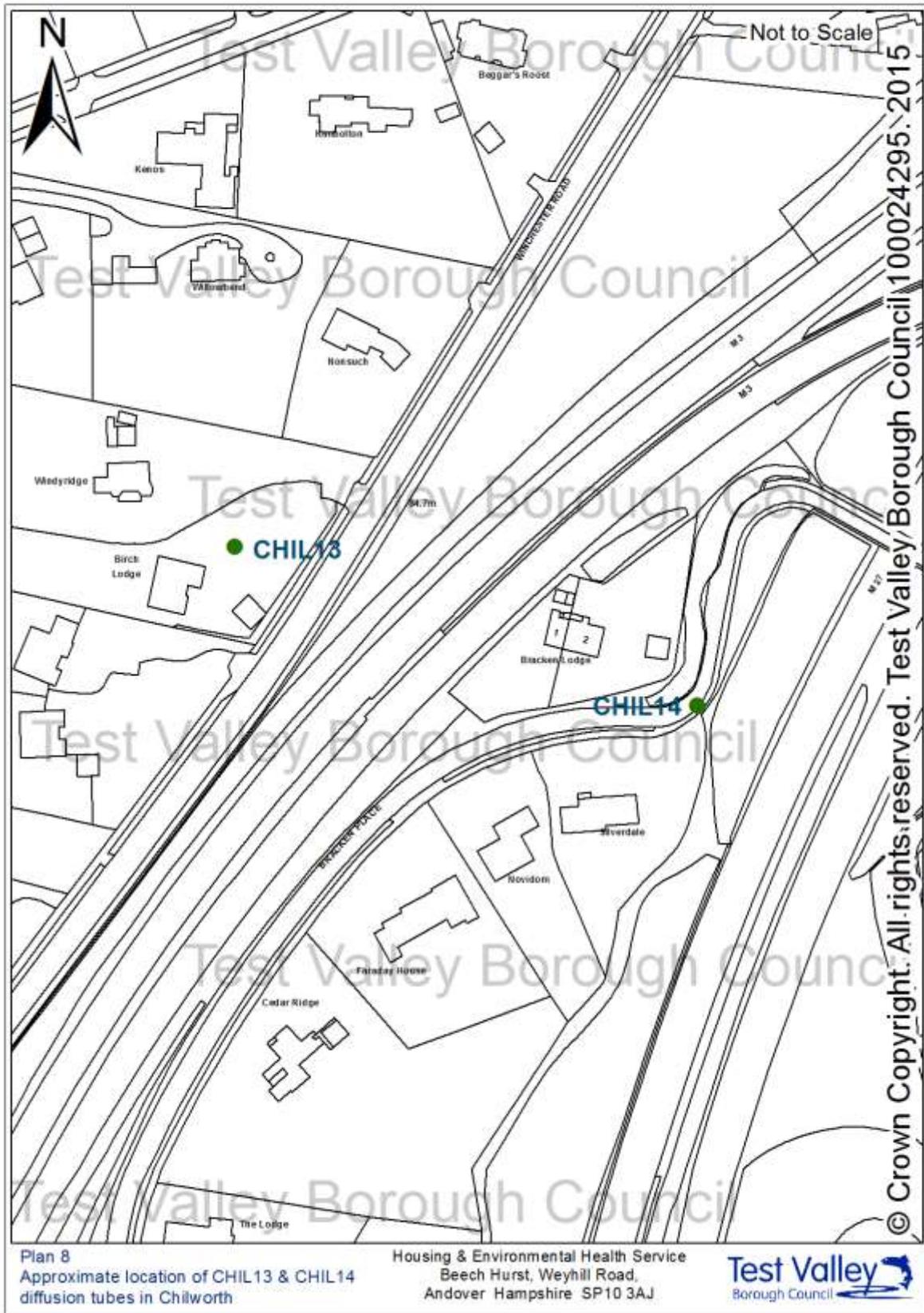


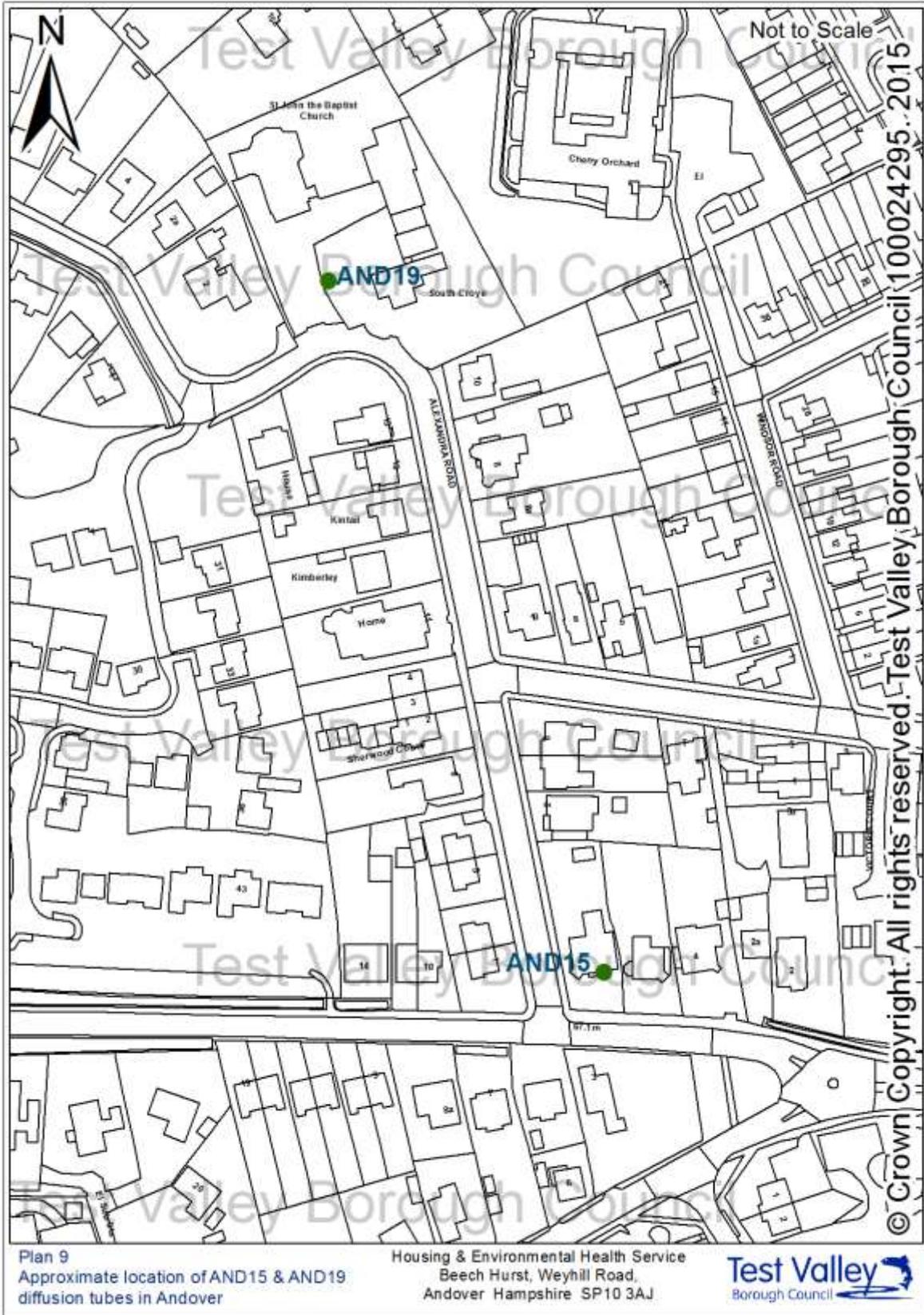














Appendix D: NO₂ trend charts (2010–2014)

