2012 Air Quality Updating and Screening Assessment for

Craigavon Borough Council

In fulfillment of Environment (Northern Ireland) Order 2002
Local Air Quality Management

MAY 2012

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Date	**MAY 2012**

Executive Summary

Diffusion Tube monitoring during 2011 at 9 locations within Craigavon Borough Council's area has demonstrated that there are 2 sites with NO_2 levels exceeding the objective limit of 40ug/m^3 at Lurgan Road, Portadown and King Street (Flush Place) Lurgan. However these sites have previously been declared as AQMA's following Detailed Assessment in July 2011. Therefore no AQMA's will be declared at this time for any of the sites monitored by Craigavon Borough Council outside of the existing AQMA's. No detailed assessments are required for NO_2 at this time.

This Updating and Screening Assessment has not identified the need to proceed to a detailed assessment. No new additional monitoring is required and the next course of action to be completed by Craigavon Borough Council is to submit a Progress Report in April 2013 and an AQMA Action Plans for Lurgan Road, Portadown

Table of contents

List of Tables

Appendices

1 Introduction

1.1 Description of Local Authority Area

Craigavon Borough Council is a local council located mostly within County Armagh, in Northern Ireland. Situated on the southern shores of Lough Neagh, Craigavon is a new town that was built between Lurgan and Portadown during the late 1960's. The council area includes the large towns of Lurgan and Portadown, as well as smaller ones including Waringstown and Donaghcloney.

The area is served by the M1 motorway, with major road links to the business capital of Belfast, west towards Armagh City, south to Dublin; and west to Donegal and Sligo.

The main railway line from Belfast to Dublin operates through the Borough with stops at Portadown and Lurgan. Express services between Belfast and Dublin serve Portadown only, whilst commuter services utilise stations at both Portadown and Lurgan.

The Borough has a small level of heavy industry operating from several industrial estates including those at Seagoe, Mahon and Carn. The majority of the local work force is employed in the delivery of services such as local government, pharmaceuticals, education authority, health and social services, retail, agriculture and food processing.

The greatest contribution to air quality pollution is from road traffic. Particularly in the town centres of Portadown and Lurgan where the road network is quickly reaching it's maximum capacity due to the increase in car ownership. Given the size of the rural hinterland within the Borough, public transport resources are stretched and the reliance on the motor car is greatly exacerbated. Particulate Matter (PM10) and NO_2 would be considered as the pollutants most at risk of breaching the objective limits in Craigavon as a result of road traffic.

1.2 Purpose of Report

This report fulfils the requirements of the Local Air Quality Management process as set out in the Environment (Northern Ireland) Order 2002, 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 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 Northern Ireland** are set out in the Air Quality Regulations (Northern Ireland) 2003, Statutory Rules of Northern Ireland 2003, no. 342, and are shown in Table 1.3. This table shows the objectives in units of micrograms per cubic metre $\mu g/m^3$ (milligrammes per cubic metre, mg/m^3 for carbon monoxide) with the number of exceedences in each year that are permitted (where applicable).

Table 1.3 Air Quality Objectives included in Regulations for the purpose of LAQM in Northern Ireland

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
Benzene	16.25 $\mu g/m^3$	Running annual mean	31.12.2003
	3.25 $\mu g/m^3$	Running annual mean	31.12.2010
1,3-Butadiene	2.25 $\mu g/m^3$	Running annual mean	31.12.2003
Carbon monoxide	10.0 mg/m^3	Running 8-hour mean	31.12.2003
Lead	0.5 $\mu g/m^3$	Annual mean	31.12.2004
	0.25 $\mu g/m^3$	Annual mean	31.12.2008
Nitrogen dioxide	200 $\mu g/m^3$ not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40 $\mu g/m^3$	Annual mean	31.12.2005
Particles (PM_{10}) (gravimetric)	50 $\mu g/m^3$, not to be exceeded more than 35 times a year	24-hour mean	31.12.2004
	40 $\mu g/m^3$	Annual mean	31.12.2004
Sulphur dioxide	350 $\mu g/m^3$, not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
	125 $\mu g/m^3$, not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266 $\mu g/m^3$, not to be exceeded more than 35 times a year	15-minute mean	31.12.2005

1.4 Summary of Previous Review and Assessments

Table 1.4- Summary of Previous Review and Assessment Report completed by Craigavon Borough Council

Report Type	Date	Exceedences	Detailed Assessment Required	AQMA's Declared
Initial Review and Assessment	Jan 2001	None	No	None
Progress Report	April 2005	None	No	None
Updating & Screening Assessment	April 2006	None	No	None
Progress Report	April 2007	None	No	None
Progress Report	April 2008	None	No	None
Updating & Screening Assessment	April 2009	None	No	None
Progress Report	May 2010	None	Yes	TBC
Progress Report	May 2011	Yes	No	TBC
Detailed Assessment	July 2011	-	-	Yes

Figure 1.1 Map of AQMA Boundaries (if applicable)

See Appendix D

2 New Monitoring Data

2.1 Summary of Monitoring Undertaken

2.1.1 Automatic Monitoring Sites

There are no automatic monitoring sites within the Craigavon Borough Council area

2.1.2 Non-Automatic Monitoring Sites

Craigavon Borough Council carries out monitoring of NO_2 by diffusion tubes at nine sites within the borough during 2011. At the end of 2010 the Council opted to cease diffusion tube monitoring at four sites within the borough (Union Street, Castle Lane, Derrymacash & West Street). These sites were no longer representative of worst case scenario locations and the Council wanted to reposition the tubes to new locations where road traffic pollution was at greater risk of breaching the objective limits.

The NO_2 diffusion tubes were prepared and analysed by Harwell Scientifics (ESG). Harwell Scieintifics (ESG) was contracted to supply and analyse the diffusion tubes from the beginning of April 2011. This laboratory takes part in the NO_2 Network QA/QC Field Intercomparison survey. Harwell Scieintifics diffusion tubes are prepared by coating the grids in 50% TEA in Acetone. Analysis is carried out using a colorimetric technique.

None of the sites were co-located with an automatic NO_2 analyser. Details are given in Table 2.1.2a.

Diffusion Tube Bias Adjustment Factors

The NO_2 diffusion tubes were prepared and analysed by Harwell Scientifics (ESG) from the beginning of April 2011. This laboratory takes part in the NO_2 Network QA/QC Field Intercomparison survey. Harwell Scientifics (ESG) diffusion tubes are prepared by coating the grids in 50% TEA in Acetone. Craigavon Borough Council obtained the appropriate bias factor from the Defra Website. A factor of 0.84 was taken from the drop down menus available on the excel spreadsheet matrix.

Factor from Local Co-location Studies (if available)

Craigavon Borough Council did not use a Bias Factor from a local Co-location study. Craigavon Borough Council does not have an automatic NO_2 analyser in the borough to carry out a co-location assessment.

Discussion of Choice of Factor to Use

Craigavon Borough Council used the Bias Factor from the Defra Website. This was calculated by using the matrix available on the site by selecting the appropriate laboratory, year of monitoring and significant methodology. Craigavon Borough Council used a bias factor for 2011 (0.84)

QA/QC of diffusion tube monitoring

See Appendix A for Harwell Scientifics (ESG) WASP data

Table 2.1.2a Details of Non- Automatic Monitoring Sites

Site Name	Site Type	OS Grid Ref	Pollutants Monitored	In AQMA ?	Relevant Exposure? *(Y/N with distance (m) to relevant exposure)*	Distance to kerb of nearest road *(N/A if not applicable)*	Worst-case Location ?
Ardboe Drive Lurgan	Urban Background	-	NO_2	N	Y(<1)	15m	N
Ballyhannon Rd Portadown	Urban Background	-	NO_2	N	Y(4)	10m	N
Ashgrove Community Centre Portadown	Urban Background	-	NO_2	N	Y(10)	10m	N
Lord Lurgan Park Lurgan	Urban Background	-	NO_2	N	Y(4)	15m	N
Corcrain Road Portadown	Roadside	-	NO_2	N	Y (2m)	2m	Y
Lurgan Road Portadown	Roadside	-	NO_2	N	Y (<5m)	2m	Y
Queen St Lurgan	Roadside	-	NO_2	N	Y (<5m)	2m	Y
King St Lurgan	Roadside	-	NO_2	N	Y (<5m)	2m	Y
Lough Rd Lurgan	Roadside	-	NO_2	N	Y (<5m)	2m	Y

Figure 2.2 Map (s) of Non-Automatic Monitoring Sites (if applicable)

See Appendix B

2.2 Comparison of Monitoring Results with AQ Objectives

Table 2.2 Results of Nitrogen Dioxide Diffusion Tubes 2011

Site ID	Location	Within AQMA?	Data Capture for full calendar year 2010 %	Data Capture for monitoring period %	Annual mean concentrations 2011 (μg/m^3) Adjusted for bias
1	Ardboe Drive Lurgan	N	100	100	14
2	Ballyhannon Rd Portadown	N	100	100	13
3	Ashgrove Community Centre Portadown	N	100	100	15
4	Lord Lurgan Park Lurgan	N	100	100	14
5	Corcrain Road Portadown	N	100	100	28
6	[3]Lurgan Road Portadown	Y	100	100	**43**
7	[3]Queen St Lurgan	Y	100	100	39
8	[3]King St Lurgan	Y	100	100	**41**
9	Lough Rd Lurgan	N	100	100	35

Note: [3] denotes sites with diffusion tubes placed in triplicate format.

2.2.1 Nitrogen Dioxide

Table 2.2.1 Results of Nitrogen Dioxide Diffusion Tubes in previous years

Site ID	Location	Within AQMA?	Annual mean concentrations (μg/m^3) Adjusted for bias		
			2008 Bias Factor = 0.98	2009 Bias Factor = 1.03	2010 Bias Factor = 1.02
Site 1	Ardboe Drive Lurgan	N	13	11	14
Site 2	Ballyhannon Road Portadown	N	12	10	13
Site 3	Ashgrove Community Centre, Portadown	N	15	10	15
Site 4	Lord Lurgan Park Lurgan	N	13	11	14
Site 5	Corcrain Road Portadown	N	-	27	28
Site 6	Lurgan Road Portadown	Y	-	**42**	**43**
Site 7	Queen Street Lurgan	Y	-	34	39
Site 8	King Street Lurgan	Y	-	**44**	**41**
Site 9	Lough Road Lurgan	N	-	35	35

Automatic Monitoring Data

Craigavon Borough Council does not have any automatic monitoring sites.

2.2.2 PM_{10}

Craigavon Borough Council does not monitor for PM10 within the Borough

2.2.3 Sulphur Dioxide

Craigavon Borough Council does not monitor for Sulphur Dioxide within the Borough

2.2.4 Benzene

Craigavon Borough Council does not monitor for Benzene within the Borough.

2.2.5 Other pollutants monitored

Craigavon Borough Council does not monitor for any other pollutant within the Borough

2.2.6 Summary of Compliance with AQS Objectives

Craigavon Borough Council has examined the results from monitoring in the borough. Concentrations outside of the AQMA are all below the objectives at relevant locations, therefore there is no need to proceed to a Detailed Assessment.
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3 Road Traffic Sources

3.1 Narrow Congested Streets with Residential Properties Close to the Kerb

Craigavon 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

Craigavon 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.

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

3.4 Junctions

Craigavon 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

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

3.6 Roads with Significantly Changed Traffic Flows

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

3.7 Bus and Coach Stations

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

4 Other Transport Sources

4.1 Airports

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

4.2 Railways (Diesel and Steam Trains)

There are two train stations within the Borough. These are located at North Way, Portadown and Lough Road, Lurgan and are serviced by diesel locomotives. These stations are stand alone stations facilitating two tracks with platforms on each side (South Bound & East Bound). There are no signal stops, goods loops or depots within the borough where trains may be stationary for periods of 15 minutes or more. Observations at both train stations demonstrate that trains are only stationary for approximately 3 to 5 minutes. No individuals are at risk of exposure to diesel emissions within 15m of the track (or outside the stations) for 15 minutes or longer.

4.2.1 Stationary Trains

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Craigavon 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 15m.

4.2.2 Moving Trains

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

4.3 Ports (Shipping)

Craigavon Borough Council confirms that there are no ports or shipping that meet 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

Craigavon 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.

DELETE BOX IF NOT APPLICABLE. OTHERWISE ADD LOCAL AUTHORITY NAME AND LEAVE IN.

5.1.2 Existing Installations where Emissions have Increased Substantially or New Relevant Exposure has been Introduced

Craigavon 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.

5.1.3 New or Significantly Changed Installations with No Previous Air Quality Assessment

Craigavon 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

Craigavon Borough Council confirms that there are no petrol stations meeting the specified criteria**.**

5.4 Poultry Farms

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

6 Commercial and Domestic Sources

6.1 Biomass Combustion – Individual Installations

Craigavon Borough Council confirms that there are no biomass combustion plant in the Local Authority area.

6.2 Biomass Combustion – Combined Impacts

Craigavon Borough Council confirms that there are no biomass combustion plant in the Local Authority area.

6.3 Domestic Solid-Fuel Burning

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

7 Fugitive or Uncontrolled Sources

Craigavon 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

Diffusion Tube monitoring during 2011 at 9 locations within Craigavon Borough Council's area has demonstrated that there are 2 sites with NO_2 levels exceeding the objective limit of 40ug/m^3 at Lurgan Road, Portadown and King Street (Flush Place) Lurgan. However these sites have previously been declared as AQMA's following Detailed Assessment in July 2011. Therefore no AQMA's will be declared at this time for any of the sites monitored by Craigavon Borough Council outside of the existing AQMA's. No detailed assessments are required for NO_2 at this time.

8.2 Conclusions from Assessment of Sources

This Updating and Screening Assessment has determined that there are no impacts on local air quality from the assessment of sources in sections 3,4,5,6 & 7 of this Updating and Screening Assessment.

8.3 Proposed Actions

This Updating and Screening Assessment has not identified the need to proceed to a detailed assessment. No new additional monitoring is required and the next course of action to be completed by Craigavon Borough Council is to submit a Progress Report in April 2013 and an AQMA Action Plans for Lurgan Road, Portadown

9 References

Local Air Quality Management Technical Guidance – LAQM.TG(09)

Appendices

Appendix A: QA/QC Data & WASP Data

Appendix B: Diffusion Tube Monitoring Maps 2011

Appendix C: 2011 Diffusion Tube Results and Historical Graph of Emissions

Appendix A: QA:QC Data

Factor from Local Co-location Studies (if available)

N/A

Diffusion Tube Bias Adjustment Factors

The NO_2 diffusion tubes were prepared and analysed by Harwell Scientifics from the beginning of April 2011. This laboratory takes part in the NO_2 Network QA/QC Field Intercomparison survey. Harwell Scientifics diffusion tubes are prepared by coating the grids in 50% TEA in Acetone. Craigavon Borough Council obtained the appropriate bias factor from Defra's LAQM Website. A factor of 0.84 was taken from the drop down menus available on the excel spreadsheet matrix.

Discussion of Choice of Factor to Use

Craigavon Borough Council used the Bias Factor from the Defra LAQM Website. This was calculated by using the matrix available on the site by selecting the appropriate laboratory, year of monitoring and significant methodology. Craigavon Borough Council used a bias factor for 2011 (0.84)

PM Monitoring Adjustment

N/A

Short-term to Long-term Data adjustment

N/A

QA/QC of automatic monitoring

N/A

QA/QC of diffusion tube monitoring

The Summary of Precision Results Nitrogen Dioxide Collocation Studies as displayed at Defra's website http://laqm.defra.gov.uk/documents/Tube_Precision_2011 (version 03/12) shows that Harwell Scientifics demonstrated good precision in 16 out of 16 collocation studies completed in 2011.

WASP Data

The 2011 WASP data for Harwell Scientifics (ESG) is contained in the table below.

Table 1: Laboratory summary performance for WASP NO2 PT rounds 108 - 115

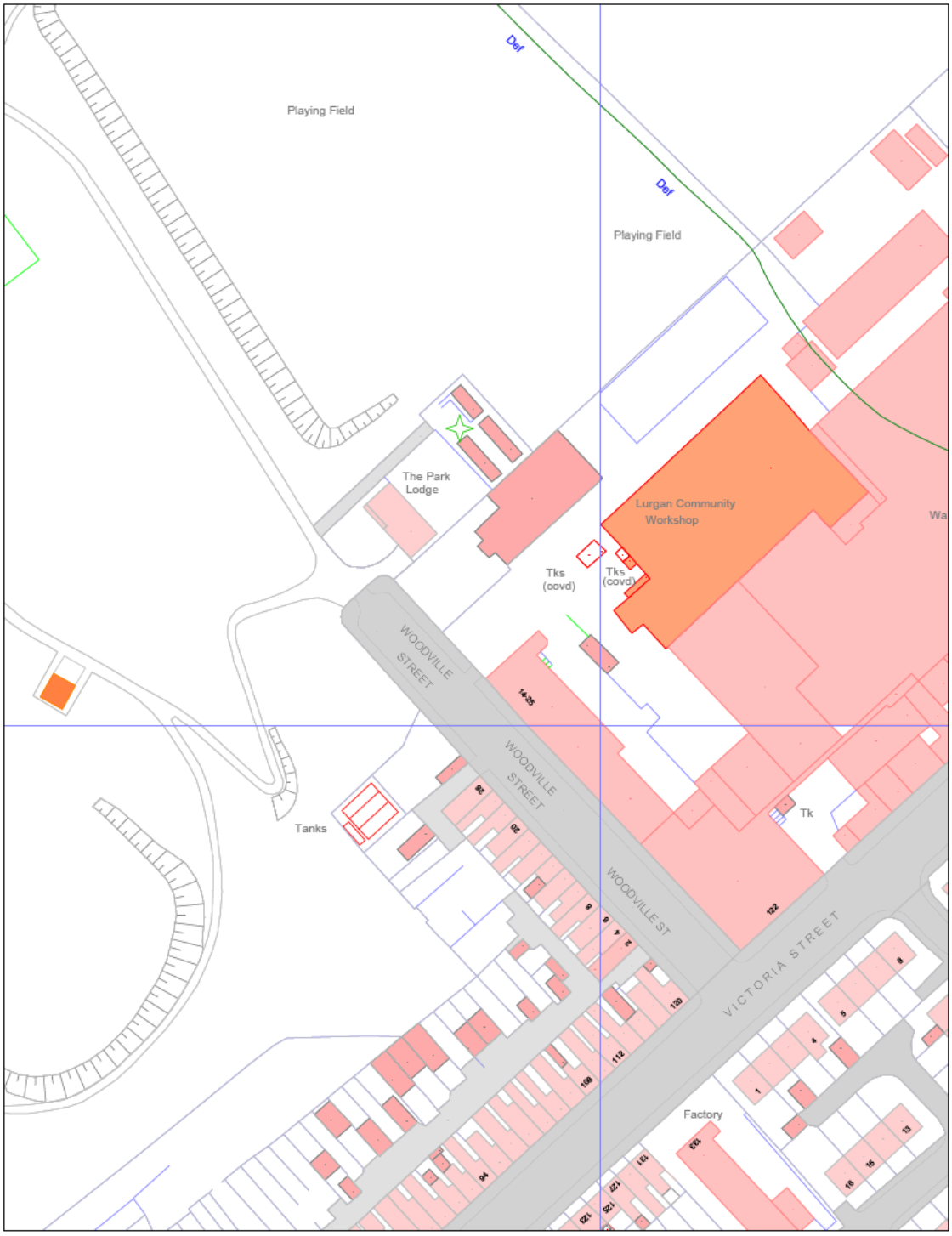
The following table lists those UK laboratories undertaking LAQM activities that have participated in recent HSL WASP NO2 PT rounds and the percentage (%) of results submitted which were subsequently determined to be satisfactory based upon a z-score of < ± 2 as defined above.

WASP Round	WASP R108	WASP R109	WASP R110	WASP R111	WASP R112	WASP R113	WASP R114	WASP R115
Round conducted in the period	Jan – March 2010	April – June 2010	June – August 2010	Oct – Dec 2010	Jan -March 2011	April - June 2011	July - Sept 2011	October - December 2011
Aberdeen Public Analysts	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
Bristol City Council	75 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
Cardiff Scientific Services	100 %	50 %	100 %	75 %	100 %	100 %	100 %	75 %
Edinburgh City Council	100 %	100 %	75 %	100 %	100 %	100 %	100 %	0 %
Environmental Services Group, Didcot (formerly Bureau Veritas Laboratories, Glasgow and Harwell Scientifics) [1] [2]	**100 %**	**100 %**	**100 %**	**100 %**	**100 %**	**100 %**	**100 %**	**100 %**
Exova (formerly Clyde Analytical)	100 %	50 %	50 %	100 %	100 %	100 %	0 %	75 %
Glasgow Scientific Services	50 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
Gradko International [2]	100 %	87.5 %	100 %	100 %	100 %	100 %	100 %	37.5 %
Kent Scientific Services	100 %	100 %	100 %	100 %	50 %	100 %	100 %	75 %
Kirklees MBC	100 %	100 %	100 %	0 %	100 %	0 %	0 %	50 %
Lambeth Scientific Services	50 %	100 %	100 %	100 %	50 %	25 %	100 %	25 %
Lancashire County Analysts [3]	100 %	75 %	50 %	100 %	75 %	-	-	-
Milton Keynes Council	100 %	25 %	50 %	100 %	100 %	75 %	100 %	100 %
Northampton Borough Council	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
Somerset Council [4]	-	-	-	-	-	-	-	100 %
South Yorkshire Council Laboratory [5]	25 %	-	-	-	-	-	-	-
South Yorkshire Air Quality Samplers [6]	-	100 %	100 %	100 %	100 %	100 %	100 %	100 %
Staffordshire County Council	100 %	100 %	50 %	100 %	100 %	100 %	100 %	100 %
Tayside (formerly Dundee CC)	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
Walsall MBC [7]	-	100 %	100 %	100 %	-	-	-	-
West Yorkshire Analytical Services	100 %	100 %	100 %	100 %	75 %	75 %	100 %	100 %

[1] Bureau Veritas laboratory and Harwell Scientific now part of ESG Group.
[2] Participant subscribes to two sets of test samples (2 x 4 test samples) in each WASP PT round.
[3] No longer involved in NO2 diffusion tube measurements from R113.
[4] New participant from R115.
[5] No longer involved in NO2 diffusion tube measurements from R109.
[6] New participant from R109.
[7] Results for WASP R107, R108 and R112 not submitted. No longer involved in NO2 diffusion tube measurements from R113.

Appendix B: Diffusion Tube Monitoring Maps 2011

Air Monitoring Sites



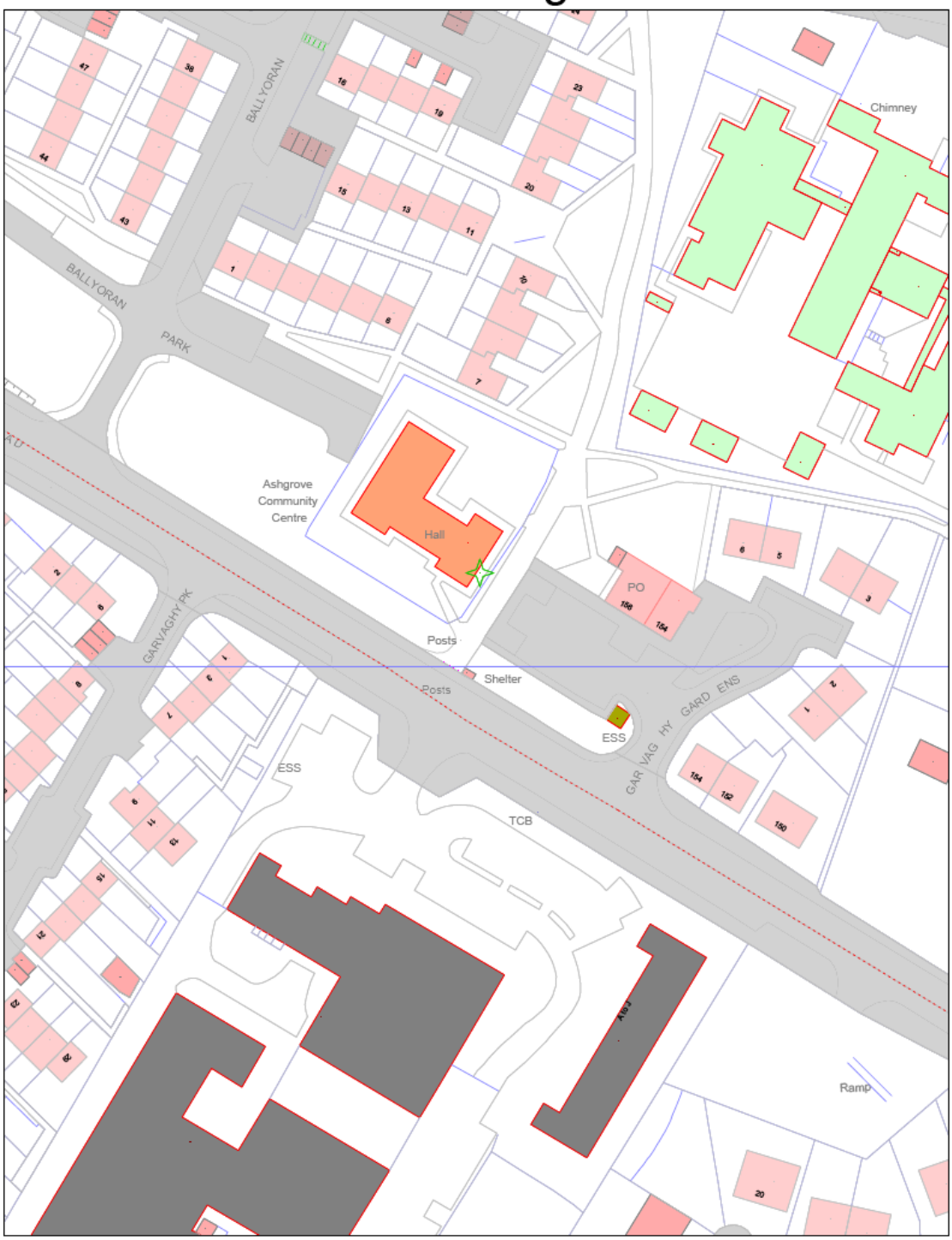
Date: 13/05/2009 Scale: 1:1250

CRAIGAVON Borough Council

Lord Lurgan Park, Lurgan
Nitrogen Dioxide
Tube No.82766

ORDNANCE SURVEY® OF NORTHERN IRELAND

Air Monitoring Site



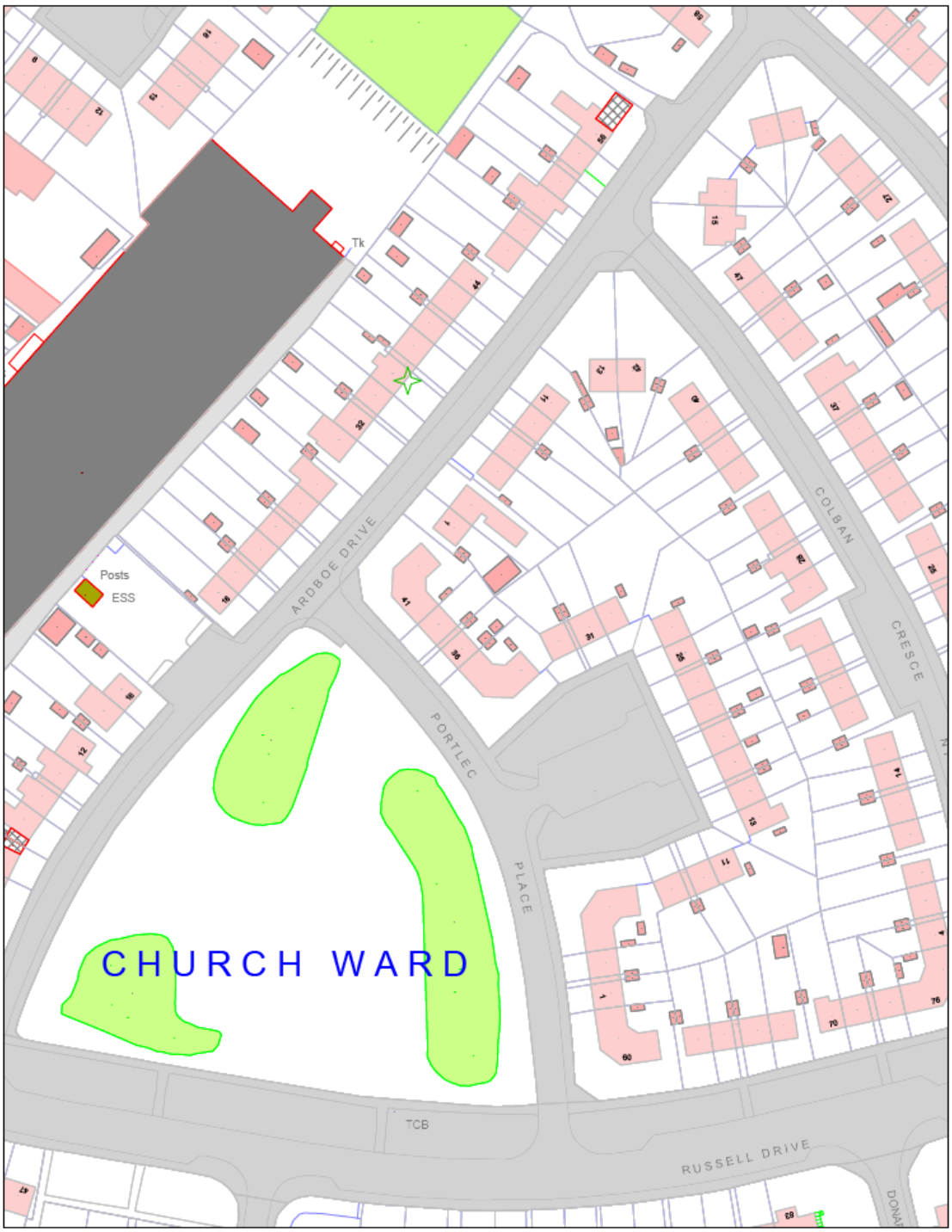
Date: 13/05/2009 Scale: 1:1250

CRAIGAVON Borough Council

Ashgrove Community Centre, Portadown
Nitrogen Dioxide
Diffusion Tube No. 82764

ORDNANCE SURVEY® OF NORTHERN IRELAND

Air Monitoring Sites



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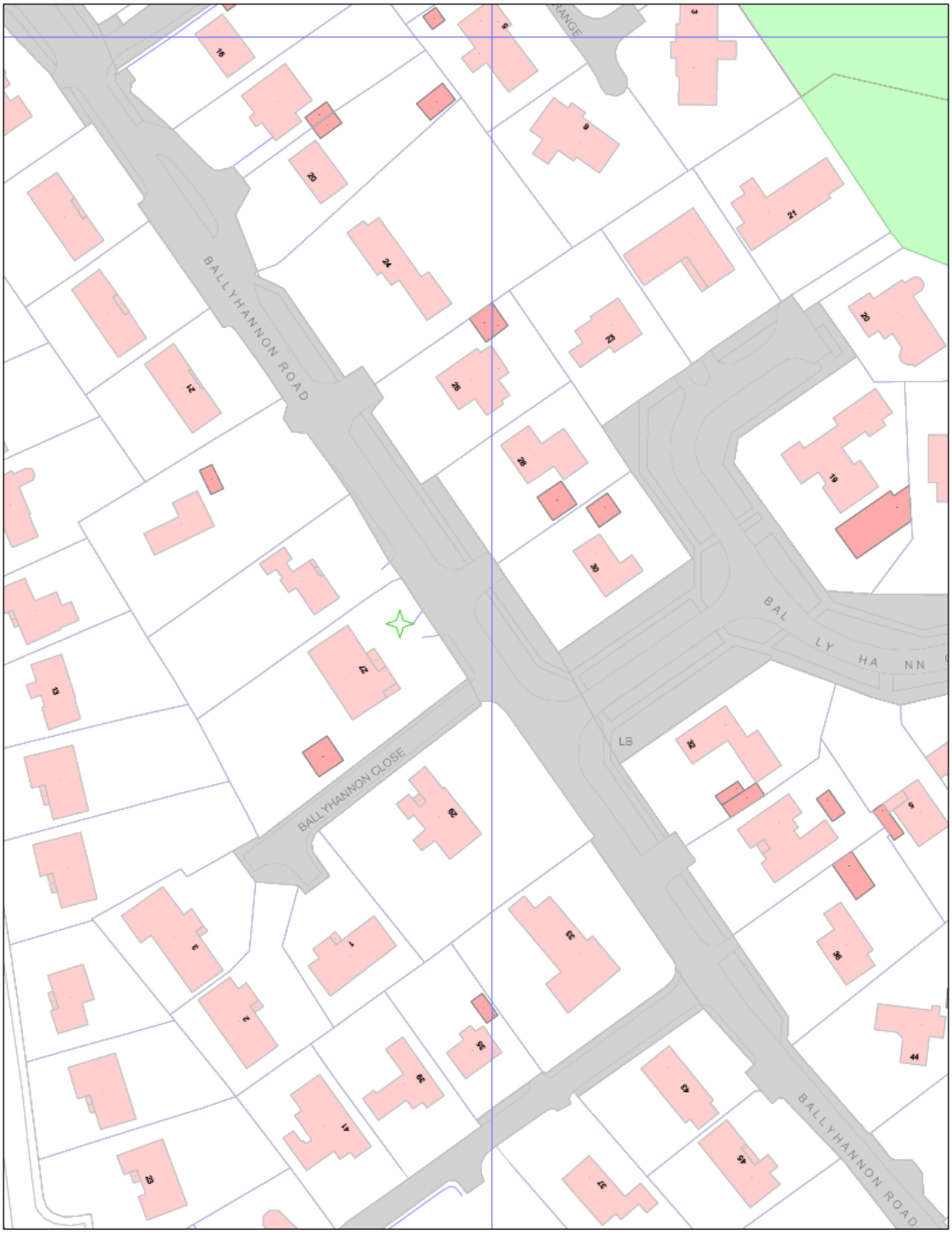
CRAIGAVON Borough Council

36 Ardboe Drive, Lurgan
Nitrogen Dioxide
Tube No. 82762

ORDNANCE SURVEY® OF NORTHERN IRELAND

Air Monitoring Sites



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CRAIGAVON Borough Council

27 Ballyhannon Road, Portadown
Nitrogen Dioxide
Tube No.82763

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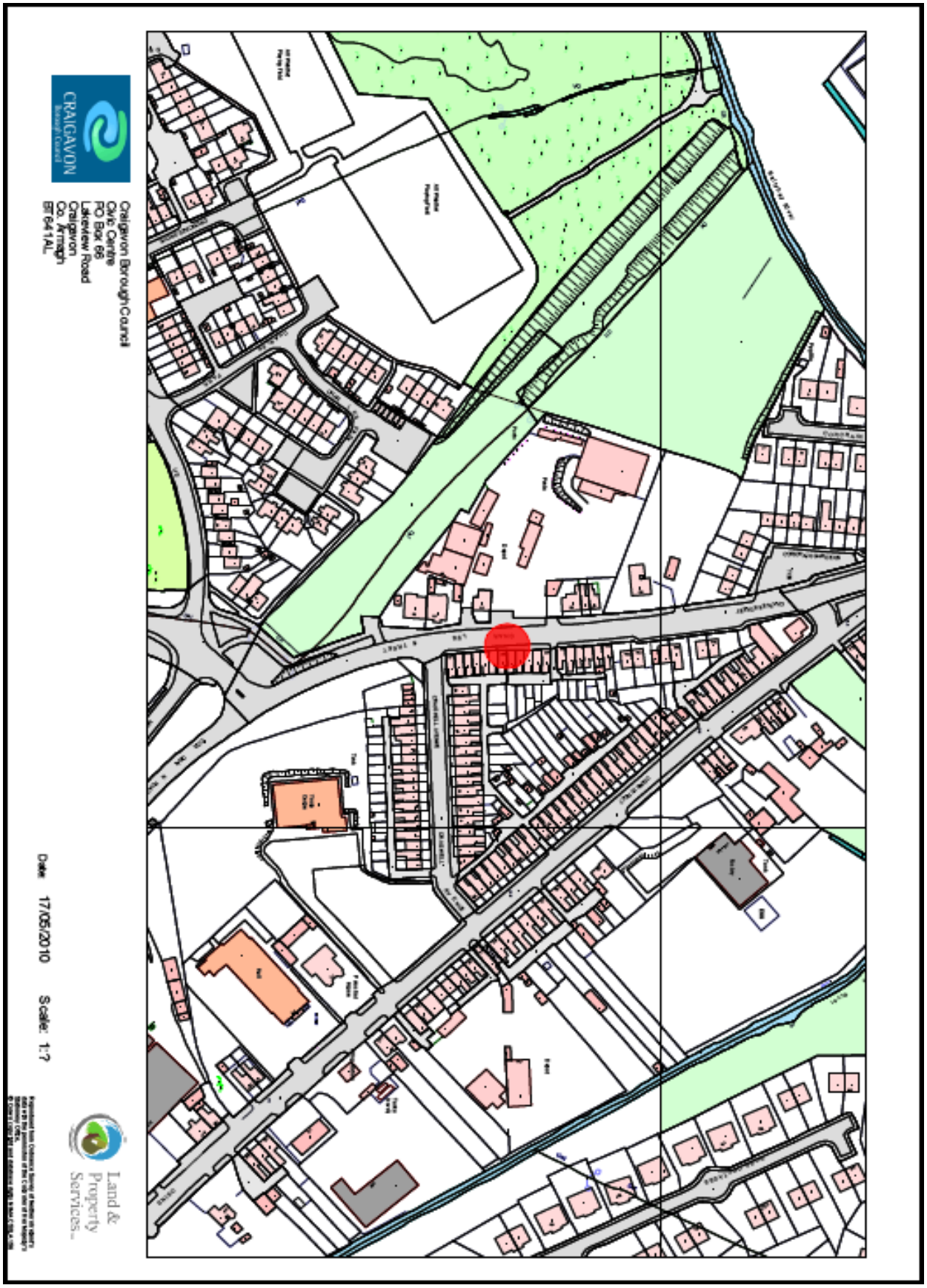
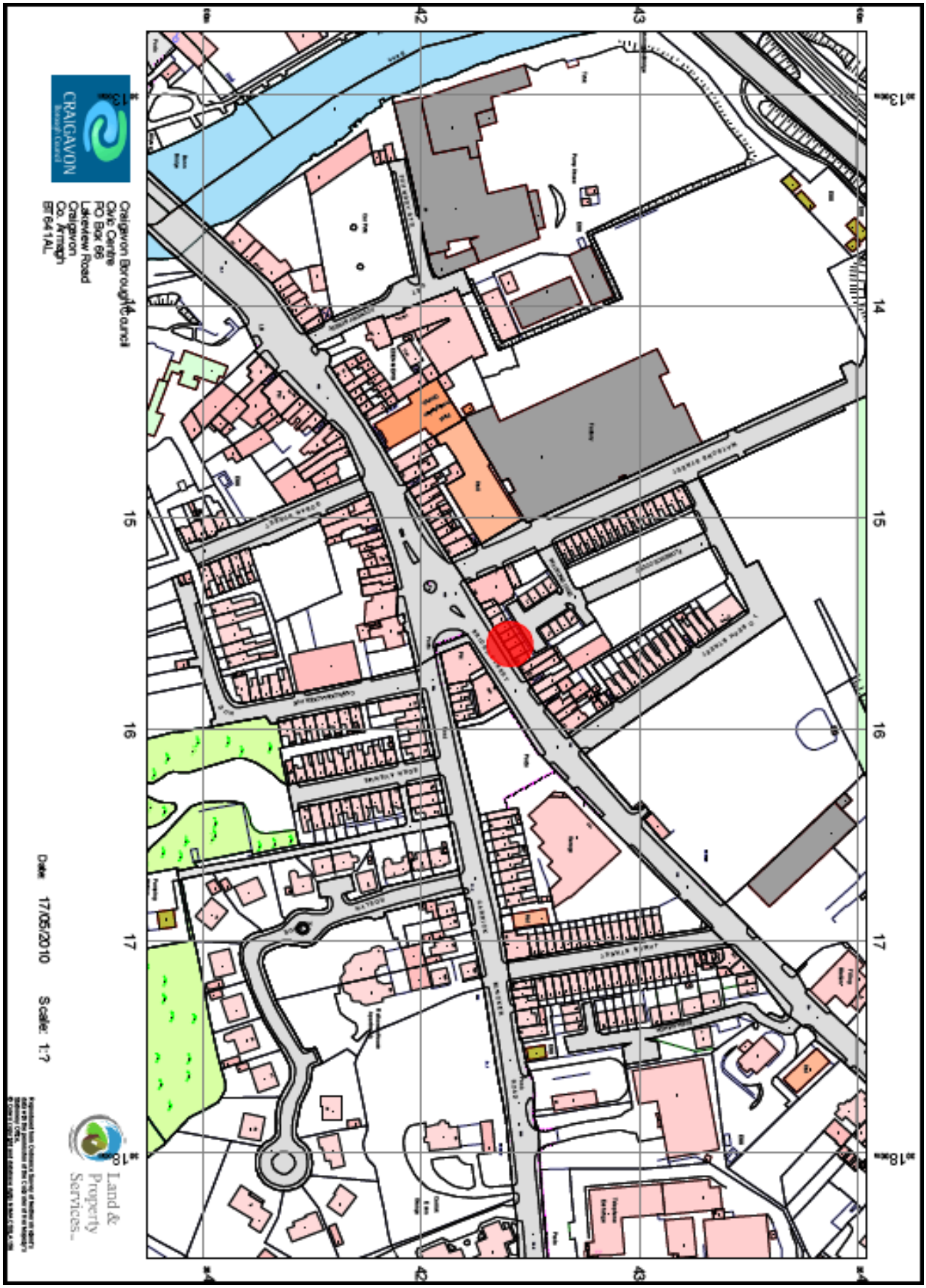
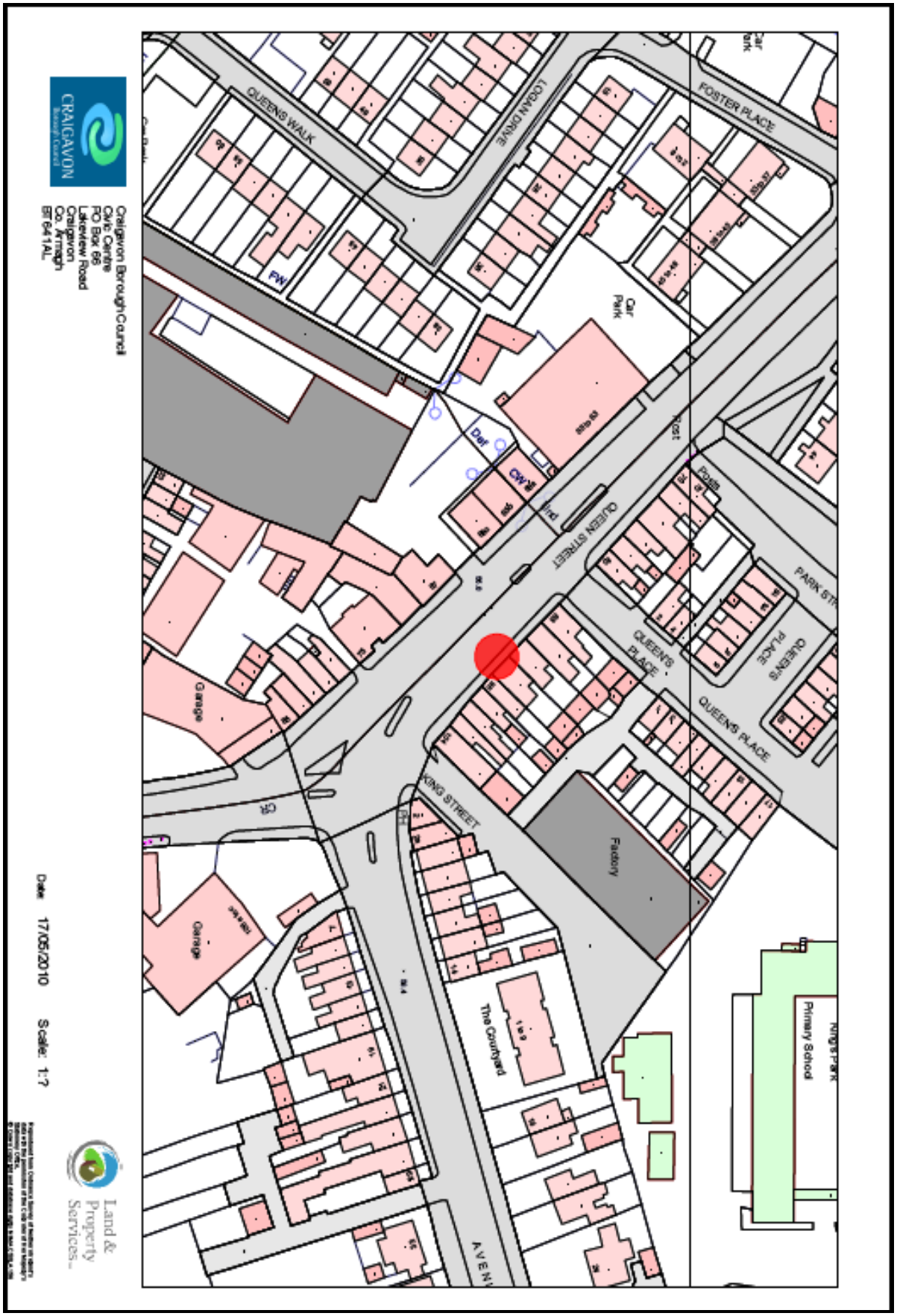


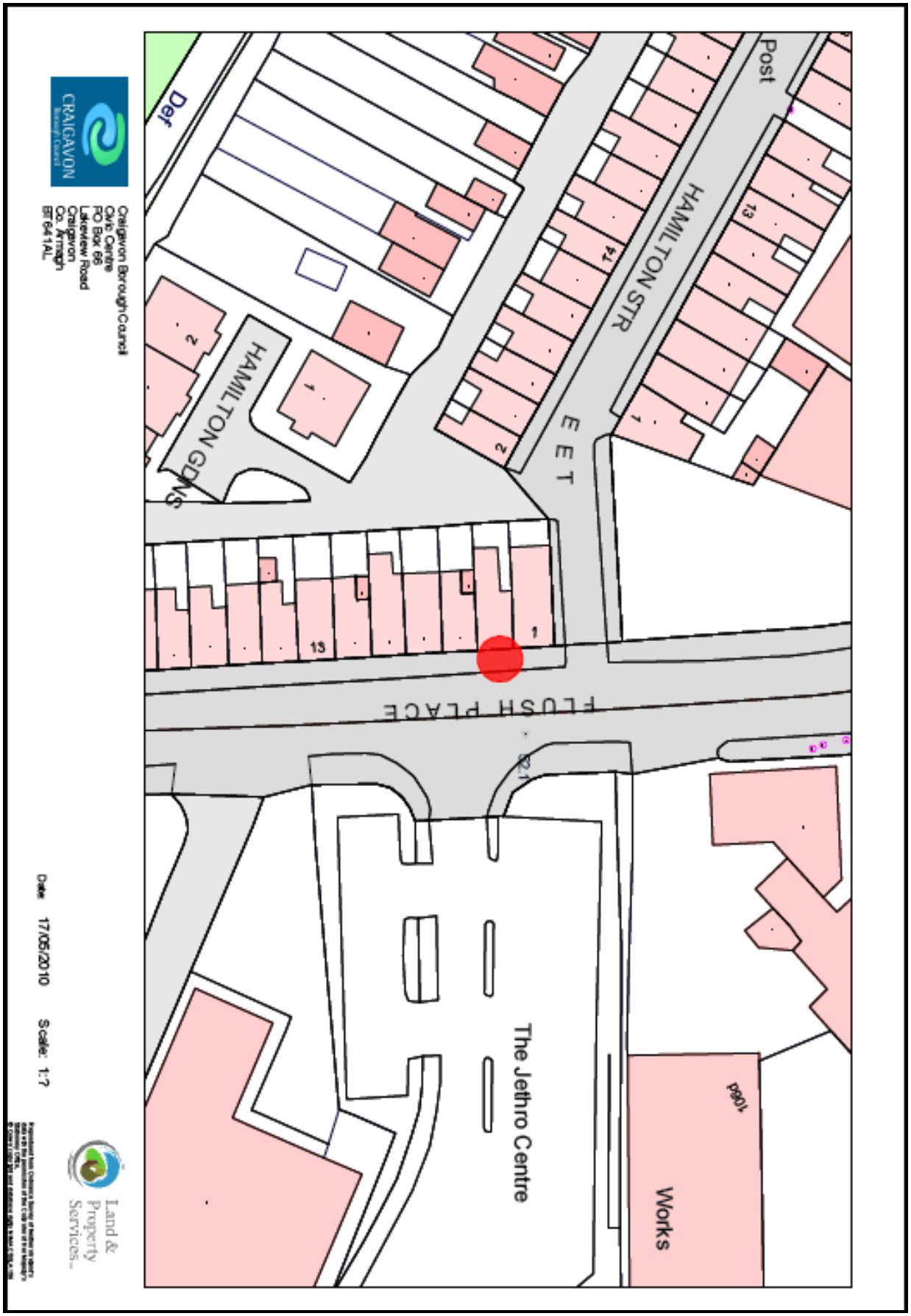
Corcrain Road, Portadown



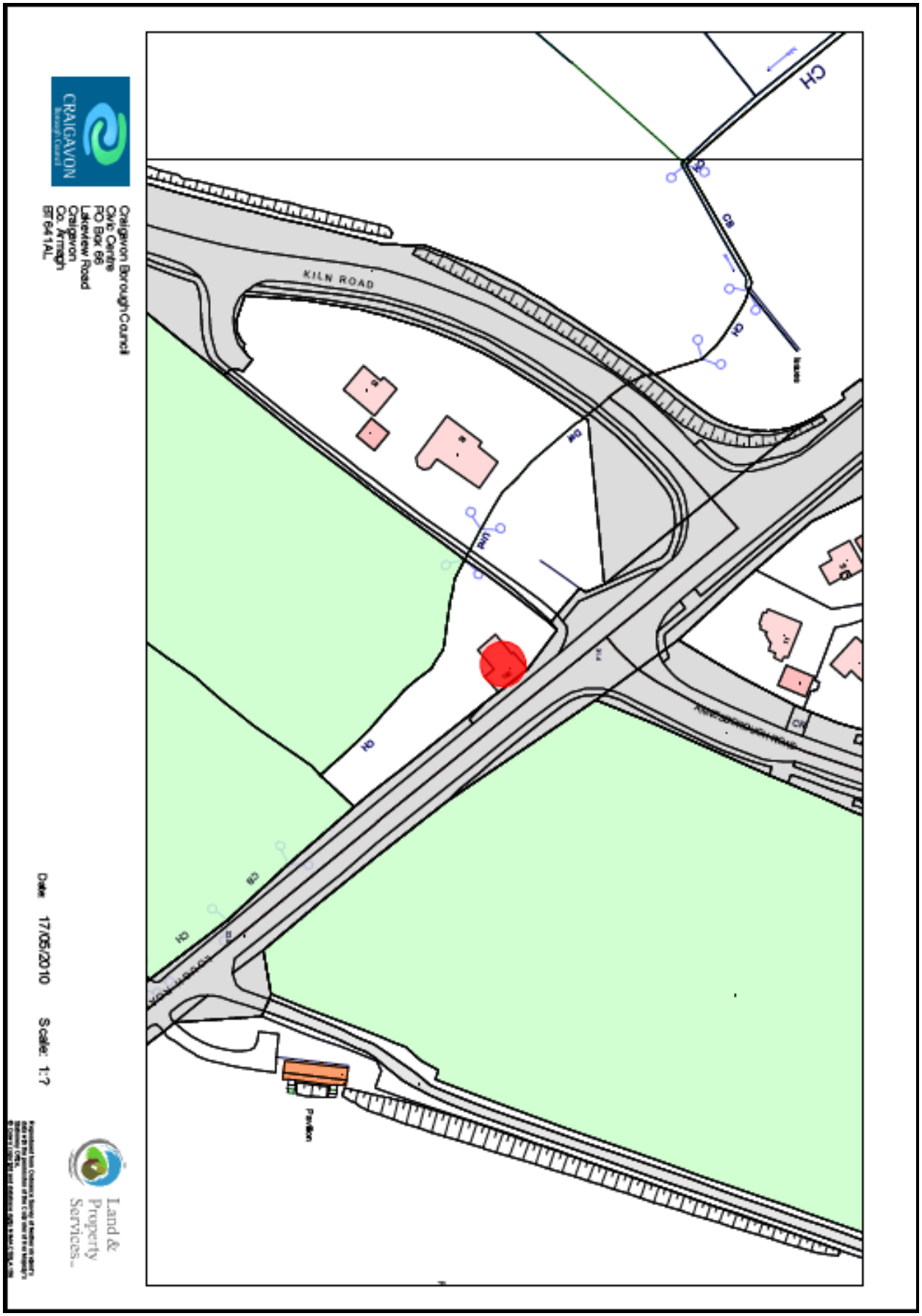
Lurgan Road, Portadown



Queen Street, Lurgan



King Street (Flush Place), Lurgan

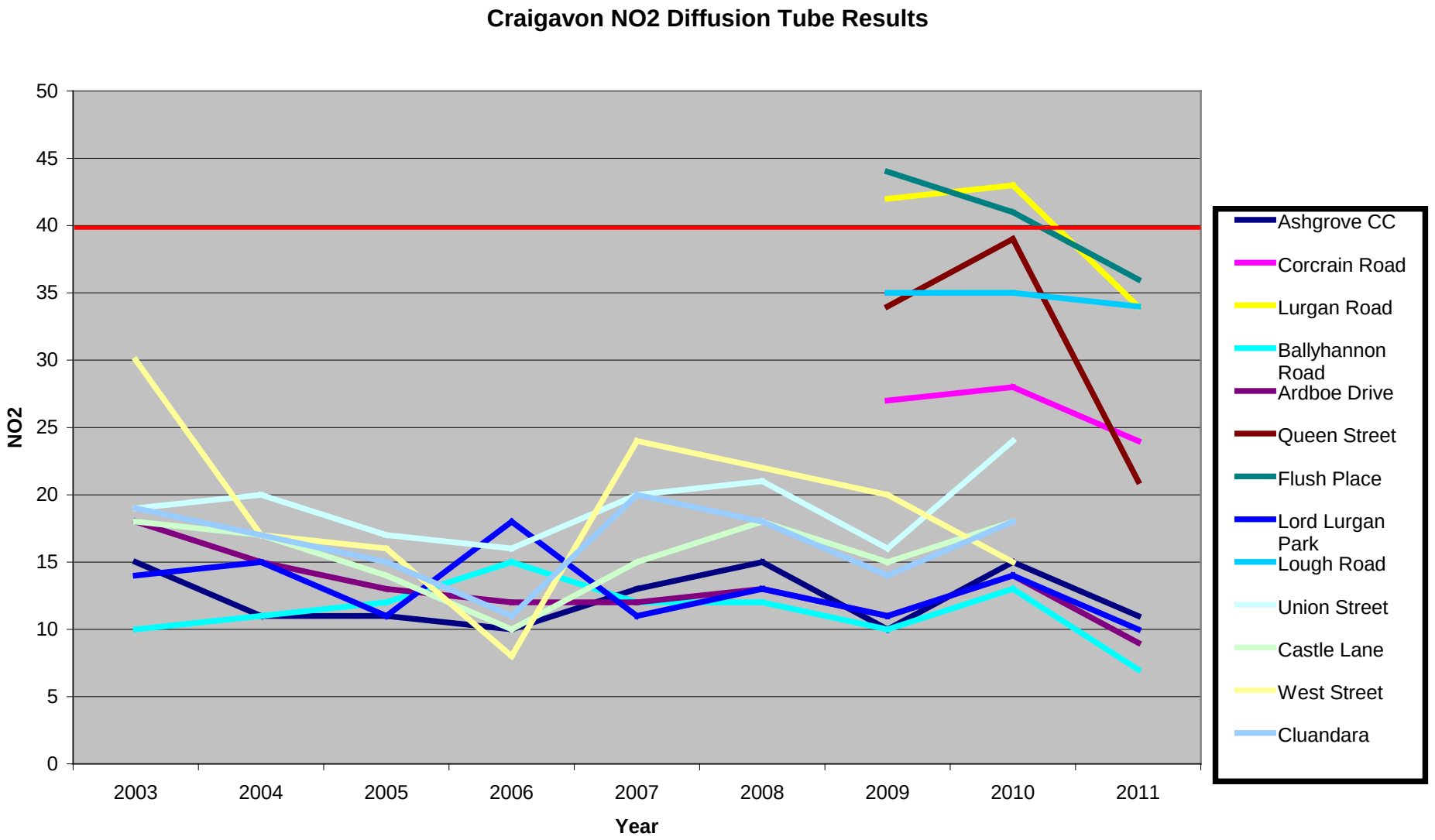


Lough Road, Lurgan

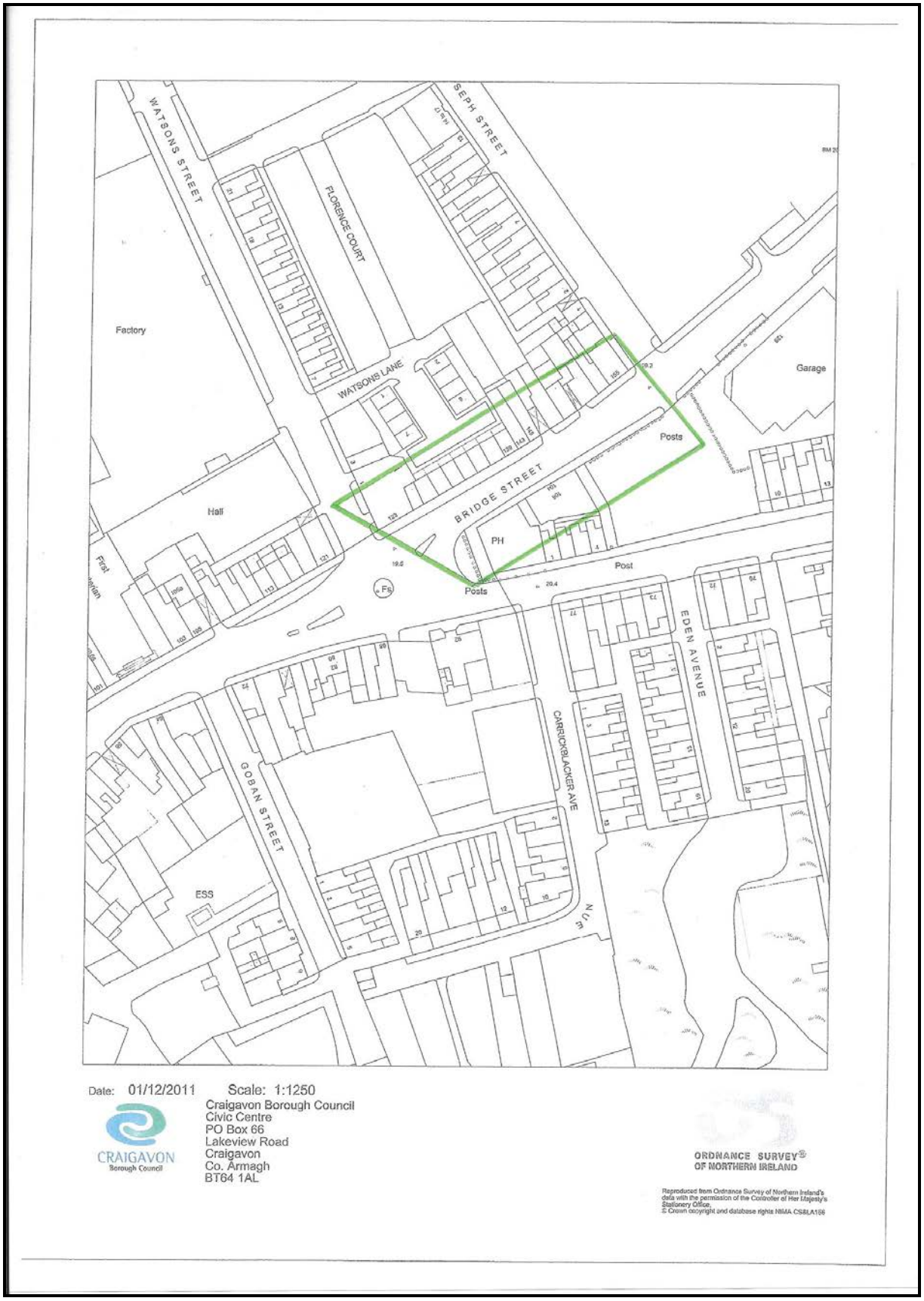
Appendix C – Diffusion Tube Results 2011

NO2 DIFFUSION TUBE RESULTS 2011 (µg/m^3)

	Ashgrove CC	Corcrain Rd	Lurgan Rd (P'down)	Ballyhannon	Ardboe Dr	Queen St	Flush Place	Lord Lurgan Pk	Lough Rd
JANUARY	21	35	57	20	23	0	49	24	56
FEBRUARY	10	22	21	9	10	0	28	11	29
MARCH	16	33	42	13	11	35	43	14	39
APRIL	12	37	46	8	9	44	46	11	44
MAY	9	18	32	5	6	25	37	6	32
JUNE	10	28	44	7	8	33	44	8	42
JULY	7	26	36	6	5	25	33	5	36
AUGUST	10	25	43	7	7	30	41	8	40
SEPTEMBER	10	23	39	6	7	24	45	4	20
OCTOBER	13	29	41	7	11	23	45	13	46
NOVEMBER	20	42	40	11	16	37	47	17	49
DECEMBER	13	22	48	8	12	28	51	24	48
AVERAGE	13	28	41	9	10	25	42	12	40
Adjusted Ave	11	24	34	7	9	21	36	10	34


Craigavon NO2 Diffusion Tube Results
NO2
50
45
40
35
30
25
20
15
10
5
0
2003
2004
2005
2006
2007
2008
2009
2010
2011
Year
Ashgrove CC
Corcrain Road
Lurgan Road
Ballyhannon Road
Ardboe Drive
Queen Street
Flush Place
Lord Lurgan Park
Lough Road
Union Street
Castle Lane
West Street
Cluandara

Appendix D : Craigavon AQMA Maps


WATSONS STREET
SEPH STREET
FLORENCE COURT
Factory
WATSONS LANE
Garage
Posts
BRIDGE STREET
Hall
PH
Post
Posts
EDEN AVENUE
CARRICKBLACKER AVE
GOBAN STREET
ESS
Date: 01/12/2011
Scale: 1:1250
Craigavon Borough Council
Civic Centre
PO Box 66
Lakeview Road
Craigavon
Co. Armagh
BT64 1AL
CRAIGAVON
Borough Council
ORDNANCE SURVEY
OF NORTHERN IRELAND
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Date: 01/12/2011 Scale: 1:1250

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