ENV/254/64
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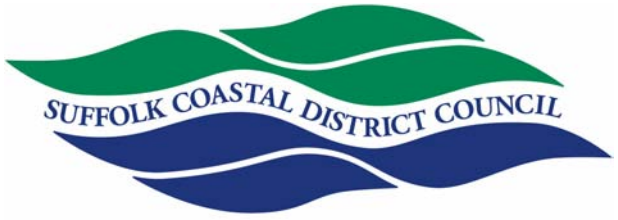

2009 Air Quality Updating and Screening Assessment for Suffolk Coastal District Council

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

August 2009

Suffolk Coastal District Council - England

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Executive Summary

This report fulfils the requirements of the Local Air Quality Management (LAQM) 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.

Previous rounds of review and assessment for the district have culminated in the declaration of two AQMAs. The first was declared in 2006 and encompasses several properties on the junction of Lime Kiln Quay Road, Thoroughfare and St. John's Street in Woodbridge (Woodbridge Junction). The second was declared more recently, in 2009, for The Dooley Inn, Ferry Lane, Felixstowe. This is a single property close to the Port of Felixstowe.

This Updating and Screening Assessment has not identified the need to proceed to a Detailed Assessment for any pollutant. Work is continuing in order to identify biomass combustion plant within the district which requires a screening assessment. Findings from this investigation will be presented in the next air quality Progress Report.

Monitoring has confirmed the need for, and extent of, the AQMA at the Woodbridge Junction and the AQMA at The Dooley Inn, Ferry Lane, Felixstowe and is continuing.

The draft Action Plan for the Woodbridge Junction AQMA is to be taken to the Council's Cabinet in October 2009 for consideration. Work is progressing to produce the Further Assessment and draft Action Plan for the AQMA at The Dooley Inn, Ferry Lane, Felixstowe. The next air quality Progress Report is due to be completed and submitted in 2010.

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1 Introduction

1.1 Description of Local Authority Area

Suffolk Coastal is a diverse district incorporating thirty miles of coast, expansive areas of countryside, much of which still forms a working landscape, five market towns including Woodbridge, the resort and port of Felixstowe as well as many villages. The district supports over 4,000 businesses, including large employers like the Port of Felixstowe, BT and Sizewell Power Station, as well as a high proportion of small and medium sized businesses that are vital to the local economy. Tourism is also a major driver for the local economy. Much of the district is within the Haven Gateway that is identified for significant growth.

The main source of emissions, within the majority of the district, is road traffic. Within the town of Felixstowe, emissions from and associated with the Port of Felixstowe form the main source of pollutants. While the quality of our air is generally very good and well within the limits set by Government for the protection of human health, there are now two areas within the district where levels of pollution give rise for concern. As such, two Air Quality Management Areas have been declared in the District, one in Woodbridge (road traffic related) and the other in Felixstowe (associated with emissions from and associated with the Port of Felixstowe).

1.2 Purpose of Report

This report fulfils the requirements of the Local Air Quality Management (LAQM) 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.

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 micrograms per cubic metre $\mu g/m^3$ (milligrammes per cubic metre, mg/m3 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 Local Air Quality Management in England.

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
	5.00 $\mu g/m^3$	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

The first round of review and assessment

This was completed in 2001 and consisted of three stages. The findings of the first round were that the air quality objectives for all seven pollutants would be met within the Suffolk Coastal district and no AQMAs were declared.

The second round of review and assessment

This was completed in 2005, the format of which followed updated guidance. An Updating and Screening Assessment was published in 2003, Detailed Assessments in 2004 and 2005 and a Progress Report in 2005.

The findings of the second round were that the air quality objectives for benzene, 1, 3-butadiene, lead, carbon monoxide would be met within the Suffolk Coastal district and no further assessment was necessary.

A Detailed Assessment monitoring study at locations on the A1214 close to the junction with Bell Lane at Kesgrave showed that it was unlikely that the air quality objective for nitrogen dioxide would be exceeded where there was relevant exposure of members of the public and declaration of an Air Quality Management Area was not necessary.

For nitrogen dioxide, sulphur dioxide and particulate matter the second round of review and assessment concluded that there was a potential risk of the air quality objectives being exceeded. Further investigation was required to assess emissions of nitrogen dioxide from traffic using the junction of Lime Kiln Quay Road, Thoroughfare, and St. John's Street in Woodbridge (Woodbridge junction), and emissions of nitrogen dioxide, sulphur dioxide and particulate matter from activities on and associated with the Port of Felixstowe.

An additional Detailed Assessment report was produced for the **junction of lime Kiln Quay Road, Thoroughfare, and St. John's Street in Woodbridge** in September 2005. This concluded, from further monitoring and modelling, that the annual mean NO_2 objective was likely to be exceeded in 2005 for two properties at Melton Hill, Woodbridge. The report recommended that the Council should consider declaring and Air Quality Management Area at the Woodbridge junction which should as a minimum include the area of exceedence. On 3 March 2006 an Air Quality Management Area Order was made by Suffolk Coastal District Council for the Woodbridge junction, this came into effect on 3 April 2006. The designated area incorporates properties on the Western side of the Thoroughfare and Melton Hill arm of the junction with Lime Kiln Quay Road, in Woodbridge, Suffolk. A copy of the AQMA Order is included as Appendix A.

A Further Assessment was produced for the Woodbridge junction in October 2007 and a draft Air Quality Action Plan is to be submitted to the Council's Cabinet in October 2009 for consideration.

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The third round of review and assessment

This began in 2005 with the Updating and Screening Assessment Report produced in September 2006, a Detailed Assessment report for Felixstowe produced in May 2008 and a Progress Report in July 2008.

The **Updating and Screening Assessment** report determined that:

- The risk of exceedence of the Air Quality Objectives for carbon monoxide, benzene, 1, 3-butadiene and lead was unlikely, and no further assessment was necessary.
- Further investigation in the form of Detailed Assessment monitoring and computer modelling was required to investigate emissions of nitrogen dioxide, sulphur dioxide and particulate matter from activities on and associated with the Port of Felixstowe, including future predictions for 2010 with the Felixstowe South Reconfiguration on-line. Investigations would include:
    - Site a continuous analyser for oxides of nitrogen (NO_x) at the Dooley Inn Public House, Ferry Lane, Felixstowe to provide 12 months of monitoring data beginning in January 2007. Co-locate diffusion tubes with the analyser to provide bias correction for diffusion tube sites.
    - Obtain a 12-month data set for NO_2, SO_2 and PM_{10} at a suitable location near to the Port of Felixstowe boundary using continuous monitoring equipment. Locate additional diffusion tube monitoring sites within Adastral Close to provide information regarding the extent of any objective exceedences.
    - Use of Air dispersion modelling to assess concentrations of NO_2, SO_2 and PM_{10} at receptor locations close to the Port of Felixstowe boundary and along the A14 trunk road. Look at the current situation and also provide future predictions with Felixstowe South Reconfiguration and Bathside Bay Container Port developments in place. Include emissions from all activities on and associated with the Port of Felixstowe. The results from the continuous monitoring, as outlined above, will enable verification of the modelling outputs.

The **Detailed Assessment** report for Felixstowe was produced in May 2008 and concluded the following:

- Modelled **sulphur dioxide** concentrations were less than the air quality objectives for all locations outside the port boundary for all modelled scenarios. The scenarios modelled include the current situation and future years with the Felixstowe South and Bathside Bay developments. Measured concentrations at the nearest residential location to the port (Adastral Close) confirm the results of the modelling study. It was not recommended that Suffolk Coastal District Council declare an Air Quality Management Area for sulphur dioxide.

- Measurements indicate that the annual mean objective for **nitrogen dioxide** was exceeded at the Dooley Inn. The modelling study indicated that this is currently the only relevant receptor location at which the objective is not met. The modelling study indicated that there is a risk that the objective for nitrogen dioxide will not be met at approximately fifteen additional properties at the west end of Adastral Close in 2010 and beyond following the Felixstowe South Reconfiguration. Source apportionment studies indicated that container handling operations by rubber tyred gantry (RTG) crane and internal movement vehicles will potentially make the largest contribution to oxides of nitrogen concentrations both at Adastral Close and at the Dooley Inn in 2010. The Port of Felixstowe Environmental Statement 2006 recognises the need to reduce emissions from the RTGs and the Port has set up a joint initiative between the engineering and operations departments to identify electricity supply points, which will enable the RTGs to be switched off when idle, reducing both fuel consumption and

overall emissions. The modelling studies indicate that reducing RTG emissions has the potential to reduce concentrations sufficiently that the air quality objective could be met both at Adastral Close and at the Dooley Inn.

It was recommended that Suffolk Coastal District Council declare an Air Quality Management Area for the annual mean nitrogen dioxide objective to cover the Dooley Inn. It was further recommended that the Council encourage the Port to make progress in identifying electricity supply points for the RTGs.

Measurements undertaken at Adastral Close indicate that Suffolk Coastal District Council are not required to declare an Air Quality Management Area for **PM_{10}**. Dispersion modelling of the emissions from ships, roads and container handling operations at the port indicates that members of the public are not currently subject to relevant exposure to concentrations in excess of the objective. Port emissions may increase with the Felixstowe South Reconfiguration but it is predicted that the air quality objective for PM_{10} will continue to be met.

On 1 May 2009 an Air Quality Management Area (AQMA) Order was made by Suffolk Coastal District Council for the Dooley Inn, Ferry Lane, Felixstowe with regard to the annual mean nitrogen dioxide concentration. A copy of the AQMA Order is included as Appendix B.

A Further Assessment must be produced for the AQMA within 12 months confirming the extent of the AQMA and providing detail on source apportionment. The local authority should aim to produce an Action Plan detailing options to reduce concentrations of nitrogen dioxide at the Dooley Inn within 18 months.

The **Progress Report** produced in 2008 provided an update regarding air quality within the district.

1.5 Findings of Recent Air Quality Consultations

All Local Authorities must consult on the findings of their periodic reviews of air quality, as laid out in Schedule 11 of the Environment Act 1995. This enables local views to be taken into consideration within the review and assessment process, which is of great importance as Local Air Quality Management (LAQM) is about air quality issues relevant to the Suffolk Coastal district.

Since the Updating and Screening Assessment Report (September 2006), there have been two public Consultations undertaken. The first Consultation was undertaken in February 2007, consulting on the findings of the afore-mentioned Updating and Screening Assessment Report 2006. The second was in November 2008, consulting on the findings of both the Detailed Assessment for Adastral Close and Ferry Lane Felixstowe and the Progress Report 2008.

A total of 5 responses were received relating to the Updating and Screening Assessment Report Consultation, and a total of 18 relating to the Detailed Assessment for Felixstowe and Progress Report Consultation.

Table 1.5.1 overleaf summarises the topics to which the consultation responses related (where a response included several subjects it has been recorded against each subject referred to).

Table 1.5.1 Summary of Consultation responses received

Topic of response	Number of responses received from 2007 Consultation	Number of responses received from 2008 Consultation
Satisfied with the process/report and/or had no specific comments to make	3	4
AQMA at Woodbridge Junction	1	7
Investigations in Felixstowe (relating to emissions from activities on and associated with the Port of Felixstowe)	1	7
Emissions from traffic using the A12 near to the BT and Park & Ride roundabouts	~	3
PM_{10} emissions from the Sinks Pit site, Kesgrave	~	1
Suggestions for additional monitoring sites	~	3
Adastral Park, Martlesham Heath - planning application	~	2
Concerns regarding emissions from shipping and Felixstowe affecting Bawdsey peninsula	~	2

Consultation responses received relating to the AQMA at Woodbridge have been added to those previously received for this junction and will form part of the draft Action Plan which will be placed before the Council's Cabinet in October 2009 for consideration. Comments relating to each suggestion raised are included in the draft action plan report as an Appendix. Consultation responses relating to emissions from and associated with the Port of Felixstowe will form part of the Action Plan which must now be drawn up for the AQMA declared at The Dooley Inn, Ferry Lane, Felixstowe on 1 May 2009, and will be presented as part of this document.

The remaining topics covered by consultation responses have been dealt with individually and our reply/comment is detailed in Appendix I.

2 New Monitoring Data

2.1 Summary of Monitoring Undertaken

2.1.1 Automatic Monitoring Sites

Since the Progress Report (July 2008) two automatic NO_x analysers have remained within the Suffolk Coastal district in the following locations, both now declared as Air Quality Management Areas:

- Junction of Lime Kiln Quay Road, Thoroughfare and St. John's Street in Woodbridge (Woodbridge Junction)
- The Dooley Inn Public House, Ferry Lane, Felixstowe

Further detail regarding each site is provided in Table 2.1 below. The location of each analyser can be seen in Maps 2.1 and 2.2. Details of Quality Assurance/ Quality Control carried out for each of the analysers is provided in Appendix C.

The data obtained at each site has been used to provide a bias correction factor for collocated diffusion tubes at each location.

Table 2.1 Details of 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?
Woodbridge Junction	Kerbside	X 62759 Y 24926	NO_2	Yes	Yes (0.1m)	1 m	Yes
Ferry Lane, Felixstowe	Industrial / Road traffic	X 62796 Y 23423	NO_2	Yes	Yes (0.1m)	72 m	Yes

2.1.2 Non-Automatic Monitoring

During 2008 there were 39 sites monitoring concentrations of nitrogen dioxide using passive diffusion tubes in the Suffolk Coastal district. Further details regarding these sites are provided in Table 2.2 overleaf.

Information regarding the analyst laboratory used, Quality Assurance/ Quality Control and bias correction factors is provided in Appendix C. Maps showing the diffusion tube sites are provided in Appendix D.

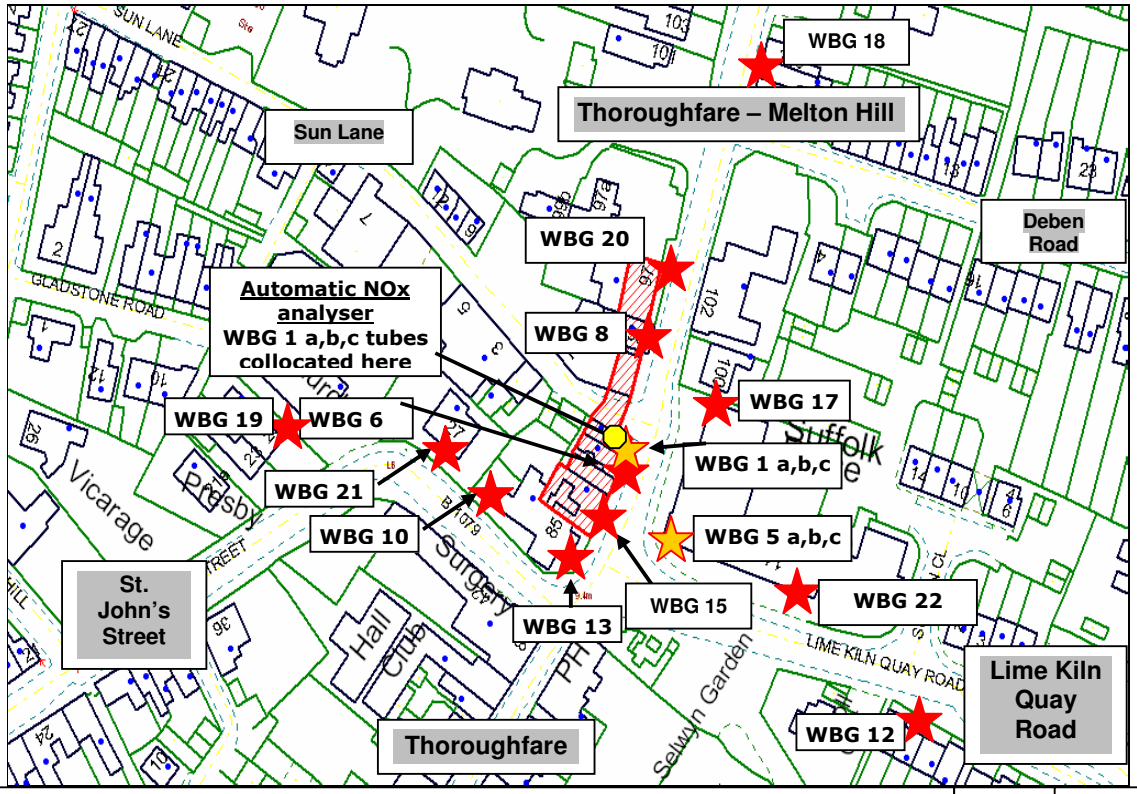
Table 2.2 Details of Non- Automatic Monitoring Sites (NO_2 diffusion tube sites)

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?
Felixstowe 4 (FLX 4)	Urban background	(6)3080 (2)3542	NO_2	N	Y 11m	N/A	N/A
Felixstowe 12 (FLX 12)	Roadside	(6)3036 (2)3489	NO_2	N	Y 0m	5m	Y
Felixstowe 14 (FLX 14a,b,c)	Industrial	(6)2860 (2)3284	NO_2	N	Y 0m	N/A	N
Felixstowe 17 (FLX 17a,b,c)	Roadside	(6)2881 (2)3632	NO_2	N	Y 0m	31m	Y
Felixstowe 18 (FLX 18a,b,c)	Roadside	(6)2751 (2)3814	NO_2	N	Y 8m	23m	Y
Felixstowe 19 (FLX 19)	Urban background	(6)2849 (2)3601	NO_2	N	Y 10m	N/A	N/A
Felixstowe 20 (FLX 20)	Industrial / Road traffic	(6)2867 (2)3398	NO_2	N	Y 0m	54m	Y
Felixstowe 21 (FLX 21)	Urban background	(6)2925 (2)3443	NO_2	N	Y 9m	N/A	N/A
Felixstowe 22 (FLX 22)	Industrial	(6)2917 (2)3344	NO_2	N	Y 0m	N/A	N
Felixstowe 23 (FLX 23a,b)	Roadside	(6)2854 (2)3659	NO_2	N	Y 0m	25m	Y
Felixstowe 24 (FLX 24)	Roadside	(6)2834 (2)3462	NO_2	N	Y 0m	32m	Y
Felixstowe 25 (FLX 25)	Roadside	(6)2852 (2)3530	NO_2	N	Y 0m	23m	Y
Felixstowe 26 (FLX 26a,b,c)	Industrial / Road traffic	(6)2796 (2)3423	NO_2	N	Y 0m	75m from roundabout	Y
Felixstowe 27 (FLX 27)	Industrial / Road traffic	(6)2795 (2)3424	NO_2	N	Y 0m	75m from roundabout	Y
Felixstowe 28 (FLX 28)	Roadside	(6)2840 (2)3487	NO_2	N	Y 0m	38m	Y
Felixstowe 29 (FLX 29)	Industrial	(6)2871 (2)3289	NO_2	N	Y 0m	N/A	N
Felixstowe 30 (FLX 30)	Industrial	(6)2873 (2)2328	NO_2	N	Y 0m	N/A	N
Felixstowe 31 (FLX 31)	Industrial	(6)2863 (2)3279	NO_2	N	Y 0m	N/A	N
Felixstowe 32 (FLX 32)	Industrial	(6)2883 (2)3287	NO_2	N	Y 0m	N/A	N
Kesgrave 4 (KSG 4)	Urban background	(6)2250 (2)4593	NO_2	N	Y 0m	N/A	N/A
Kesgrave 6 (KSG 6)	Roadside	(6)2181 (2)4578	NO_2	N	Y 0m	2.6m	Y
Kesgrave 9 (KSG 9)	Roadside	(6)2180 (2)4579	NO_2	N	Y 0m	2.6m	Y
Melton 2 (MEL 2)	Urban background	(6)2793 (2)5080	NO_2	N	Y 0m	N/A	N/A
Melton 5 (MEL 5a,b)	Roadside	(6)2814 (2)5041	NO_2	N	Y 1m	4m	Y
Melton 6 ((MEL 6)	Roadside	(6)2819 (2)5035	NO_2	N	Y 0m	18m	Y

Table 2.2 continued

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?
Woodbridge 1 (WBG 1a,b,c)	Kerbside	(6)2759 (2)4926	NO_2	Y	Y 0m	1m	Y
Woodbridge 3 (WBG 3)	Urban background	(6)2699 (2)4848	NO_2	N	Y 9m	N/A	N/A
Woodbridge 5 (WBG 5a,b,c)	Roadside	(6)2760 (2)4924	NO_2	Y	Y 0m	2.5m	Y
Woodbridge 6 (WBG 6)	Roadside	(6)2759 (2)4925	NO_2	Y	Y 0m	2m	Y
Woodbridge 8 (WBG 8)	Roadside	(6)2759 (2)4928	NO_2	Y	Y 0m	3m	Y
Woodbridge 10 (WBG 10)	Roadside	(6)2756 (2)4924	NO_2	N	Y 1m	2m	Y
Woodbridge 12 (WBG 12)	Roadside	(6)2766 (2)4920	NO_2	N	Y 0m	5m	Y
Woodbridge 13 (WBG 13)	Roadside	(6)2758 (2)4924	NO_2	N	Y 5m	2.5m	Y
Woodbridge 15 (WBG 15)	Roadside	(6)2758 (2)4924	NO_2	Y	Y 0m	2m	Y
Woodbridge 17 (WBG 17)	Roadside	(6)2761 (2)4926	NO_2	N	Y 0m	7m	Y
Woodbridge 18 (WBG 18)	Roadside	(6)2762 (2)4933	NO_2	Y	Y 0m	1.5m	Y
Woodbridge 20 (WBG 20)	Roadside	(6)2760 (2)4929	NO_2	N	Y 0m	1.5m	Y
Woodbridge 21 (WBG 21)	Roadside	(6)2754 (2)4923	NO_2	N	Y 0m	5m	Y
Woodbridge 22 (WBG 22)	Roadside	(6)2763 (2)4923	NO_2	N	Y 0m	8m	Y

Map 2.1 Location of the Automatic NOx analyser, Air Quality Management Area, and NO_2 diffusion tubes sited at the junction of Lime Kiln Quay Road, Thoroughfare and St. John's Street in Woodbridge (Woodbridge Junction)



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Not to scale

N

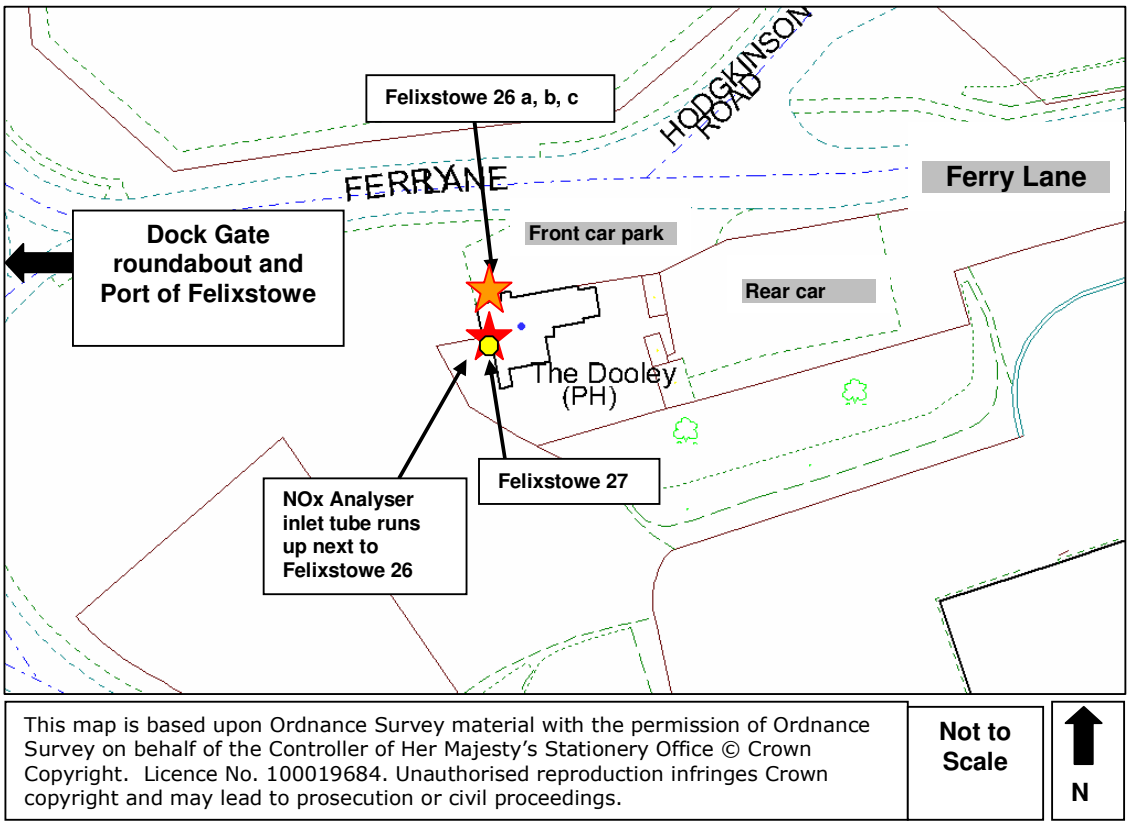
Single Diffusion Tube

Triplicate Diffusion Site

Site of automatic NO_x analyser

AQMA

Map 2.2 Site map showing location of automatic NO_x analyser and NO_2 diffusion tubes at The Dooley Inn Public House, Ferry Lane, Felixstowe



2.2 Comparison of Monitoring Results with AQ Objectives

Within the Suffolk Coastal district in 2008 monitoring was undertaken for nitrogen dioxide using both automatic analysers and diffusion tubes. No other pollutants were monitored.

2.2.1 Nitrogen Dioxide

A summary of the results of automatic monitoring of NO_2 at both the Woodbridge and Felixstowe sites can be seen in tables 2.3a and 2.3b. Table 2.3a presents results comparable with the annual mean objective of 40µg/m^3, and Table 2.3b presents results comparable with the 1-hour mean objective of 200µg/m^3. In addition to the most recent monitoring results for 2008, the results for 2006 and 2007 have also been included in the tables below for comparison purposes. Detailed summary tables and graphs showing the 2008 monitoring results for both sites are presented in Appendix E.

A summary of the results of diffusion tube monitoring of NO_2 at a number of sites within the district can be seen in Table 2.4, these results are comparable with the annual mean objective of 40µg/m^3. In addition to the most recent monitoring results for 2008, the results for 2006 and 2007 have also been included in the tables below for comparison purposes. Detailed tables showing the 2008 monitoring results for all sites are presented in Appendix F.

Automatic Monitoring Data

Table 2.3a Results of Automatic Monitoring for NO_2: Comparison with Annual Mean Objective

Site ID	Location	Within AQMA?	Proportion of year with valid data 2008 (%)	Annual mean concentrations (µg/m^3)		
				2006	2007	2008
Woodbridge	Woodbridge Junction	Yes	98.9	**44**	**46**	**45**
Felixstowe	The Dooley Inn, Ferry Lane, Felixstowe	Yes	97.1	n/a	**42**	**42**

Table 2.3b Results of Automatic Monitoring for NO_2: Comparison with 1-hour Mean Objective

Site ID	Location	Within AQMA?	Data Capture 2008 (%)	Number of Exceedences of hourly mean (200 µg/m^3) *If the period of valid data is less than 90% of a full year, include the 99.8th percentile of hourly means in brackets.*		
				2006	2007	2008
Woodbridge	Woodbridge Junction	Yes	98.9	0	2	1
Felixstowe	The Dooley Inn, Ferry Lane, Felixstowe	Yes	97.1	n/a	0	0

Diffusion Tube Monitoring Data

Table 2.4 **Results of Nitrogen Dioxide Diffusion Tubes from 2006 to 2008**

Site ID	Location	Within AQMA?	Data Capture 2008 %	Annual mean concentrations (µg/m^3) adjusted for bias Adjustment factor used is in brackets		
				2006	2007	2008
FLX 4	37 Lynwood Avenue	N	100%	24 (0.93)	23 (0.85)	24 (0.8)
FLX 12	Ford Bros. Bike Shop, Hamilton Rd	N	100%	34 (0.93)	34 (0.85)	32 (0.8)
FLX 14a,b,c	1 Adastral Close	N	100%	**40** (0.93)	33 (0.85)	29 (0.8)
FLX 17a,b,c	38 Spriteshall Lane, Trimley St Mary	N	100%	32 (0.93)	30 (0.85)	30 (0.8)
FLX 18a,b,c	67 Kirton Road, Trimley St Martin	N	100%	36 (0.93)	33 (0.85)	31 (0.8)
FLX 19	4 Welbeck Close, Trimley St Mary	N	100%	30 (0.93)	27 (0.85)	28 (0.8)
FLX 20	73 Glemsford Close	N	100%	32 (0.93)	29 (0.85)	28 (0.8)
FLX 21	4 Kingsfleet Road	N	91.7%	31 (0.93)	29 (0.85)	27 (0.8)
FLX 22	13 Levington Road	N	100%	29 (0.93)	29 (0.85)	28 (0.8)
FLX 23a,b	23 Heathgate Piece, Trimley St Mary	N	100%	36 (0.93)	32 (0.85)	32 (0.8)
FLX 24	22 Brandon Road	N	100%	35 (0.93)	35 (0.85)	34 (0.8)
FLX 25	46 Rendlesham Road	N	100%	35 (0.93)	33 (0.85)	33 (0.8)
FLX 26a,b,c	The Dooley Inn, Ferry Road	Y	100%	**49** (0.93)	**42** (0.78)	**42** (0.77)
FLX 27	The Dooley Inn, Ferry Road	N	100%	**44** (0.93)	37 (0.78)	36 (0.77)
FLX 28	63 Blyford Way	N	100%	36 (0.93)	32 (0.85)	30 (0.8)
FLX 29	18 Adastral Close	N	100%	~	31 (0.85)	30 (0.8)
FLX 30	39 Adastral Close	N	100%	~	27 (0.85)	26 (0.8)
FLX 31	44 Adastral Close	N	100%	~	31 (0.85)	33 (0.8)
FLX 32	64 Adastral Close	N	100%	~	28 (0.85)	27 (0.8)
KSG 4	Kesgrave High School, Main Road	N	100%	21 (0.93)	21 (0.96)	18 (0..8)
KSG 6	All Sts. Church/The Bell, Main Road	N	91.7%	30 (0.93)	27 (0.96)	27 (0.8)
KSG 9	118 Main Road	N	100%	39 (0.93)	**40** (0.96)	34 (0.8)
MEL 2	106 Hall Farm Road	N	100%	17 (0.93)	16 (0.96)	15 (0.8)
MEL 5a,b	6 The Street	N	91.7%	32 (0.93)	33 (0.96)	28 (0.8)
MEL 6	Melton CPS, Melton Road	N	100%	~	22 (0.96)	18 (0.8)
WBG 1a,b,c	93 Thoroughfare	Y	100%	**44** (0.93)	**46** (0.96)	**46** (0.9)
WBG 3	8 Kingston Farm Road	Y	100%	19 (0.93)	19 (0.96)	20 (0.9)
WBG 5a,b,c	Suffolk Place, Lime Kiln Quay Road	N	91.7%	30 (0.93)	31 (0.96)	30 (0.9)
WBG 6	87 Thoroughfare	Y	100%	**42** (0.93)	**43** (0.96)	**44** (0.9)
WBG 8	95 Thoroughfare	Y	100%	**45** (0.93)	**47** (0.96)	**46** (0.9)
WBG 10	St John's Street signpost	N	100%	38 (0.93)	37 (0.96)	35 (0.9)
WBG 12	8 Lime Kiln Quay Road	N	100%	31 (0.93)	30 (0.96)	30 (0.9)
WBG 13	85 Thoroughfare	N	100%	37 (0.93)	39 (0.96)	37 (0.9)
WBG 15	87 Thoroughfare	Y	100%	**42** (0.93)	**44** (0.96)	39 (0.9)
WBG 17	Suffolk Place, Lime Kiln Quay Road	N	100%	34 (0.93)	32 (0.96)	33 (0.9)
WBG 18	106/108 Thoroughfare	N	100%	39 (0.93)	**40** (0.96)	39 (0.9)
WBG 19	25 St. John's Street	N	~	23 (0.93)	24 (0.96)	Site removed
WBG 20	97 Thoroughfare	Y	100%	**43** (0.93)	**42** (0.96)	**41** (0.9)
WBG 21	27 St John's Street	N	100%	~	23 (0.96)	23 (0.9)
WBG 22	Suffolk Place, Lime Kiln Quay Road	N	**75.1%**	~	~	26 (0.9)

N.B Results highlighted in red have only 83.4% data capture

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The automatic analysers at Woodbridge and Felixstowe are sited within declared AQMAs and show the annual mean concentration at both locations to be above the air quality objective (Table 2.3a). Over the monitoring period (2006–2008) the annual mean concentration at both sites does not fluctuate significantly. The 1-hour mean objective (200µg/m^3 not to be exceeded more than 18 times per year) is not exceeded at either site (Table 2.3b).

The results of diffusion tube monitoring undertaken within the district (Table 2.4) show a number of sites where the annual mean NO_2 concentrations is above the objective of 40µg/m^3 in 2008. All of these sites are within the declared AQMAs either at Woodbridge or Felixstowe.

There are 5 diffusion tube sites which have recorded an annual mean NO_2 concentration of 40 µg/m^3 or above in 2006 and/or 2007, but which in 2008 are now below the objective level. These sites are all representative of public exposure:

FLX14 (Adastral Close),
FLX 27 (The Dooley Inn, Ferry Lane)
KSG 9 (118 Main Road)
WBG 15 (87 Thoroughfare)
WBG 18 (106/108 Thoroughfare)

Of these sites, annual mean concentrations at FLX14, FLX 27 and KSG 9 have reduced significantly in 2008. This appears to be related to the bias correction factor used. In 2006 there was only one co-location study undertaken within the district, at the Woodbridge Junction, the results from which were used to adjust all diffusion tubes. The bias adjustment factor obtained for this site has proven to be very conservative every year (when compared with the laboratory bias factor), and as this monitoring location is unusual in that it is situated at a busy road junction and within a street canyon it was decided in 2007 and 2008 to use alternative bias correction factors. In 2007 two additional co-location studies were undertaken in Felixstowe the results from which were not as conservative as those from the Woodbridge site. This will have led to a reduction in the final bias adjusted annual mean concentrations. The bias adjustment decisions made for 2007 are available in the 'Progress Report – Air Quality in the Suffolk Coastal district, July 2008' and the decisions made for 2008 are stated in Appendix C of this report.

The 2 sites in Woodbridge (WBG 15 and 18) although within the air quality objective in 2008 are still borderline, both showing an annual mean concentration of 39µg/m^3. Woodbridge 15 is within the declared AQMA. We are continuing to monitor at Woodbridge 18 and if the annual mean concentration exceeds the objective in the future, consideration will be given to either extending the current AQMA or declaring a second one in Woodbridge. Woodbridge 18 is in close proximity to the current AQMA (see Map 2.1) and will benefit from measures implemented as part of the Air Quality Action Plan being drawn up for the Woodbridge Junction.

3 Road Traffic Sources

LAQM.TG (09) advises that attention needs to be given to nitrogen dioxide (NO_2) in all cases and PM_{10} in some cases. No other pollutants need to be considered for road traffic. It is only necessary to consider locations which have not been assessed during the earlier rounds, or where there has been a change or new development.

3.1 Narrow Congested Streets with Residential Properties Close to the Kerb

Pollutant concentrations are often higher where traffic is slow moving, with stop/start driving, and where buildings on either side reduce dispersion. In these situations there is the possibility that the objectives for nitrogen dioxide (NO_2) could be exceeded.

The technical guidance LAQM.TG (09) advises that a Detailed Assessment will be required for any streets where:

- The Annual Average Daily Traffic Flow is around 5,000 vehicles per day or more
- The street is congested – it has slow moving traffic that is frequently stopping and starting due to pedestrian crossings, parked vehicles etc throughout much of the day (not just during rush hours). The average speed is likely to be less than 25 kph (15mph).
- The street is narrow – it will have residential properties within 2 m of the kerb, and buildings both sides of the road (the buildings on the other side of the road can be further from the road than 2 m).

The technical guidance LAQM.TG (09) advises that this assessment does not need to consider locations within existing Air Quality Management Areas (AQMAs) declared for NO_2. A section of the Thoroughfare (Melton Hill) at the junction of Lime Kiln Quay Road, Thoroughfare and St. John's Street in Woodbridge was declared as an AQMA in 2006. This area in Woodbridge would fall within this category but as it is already declared as an AQMA it does not require any further assessment in this section of the report.

Using local knowledge of Council Officers and traffic count information provided by Suffolk County Council (see Appendix G) it has been determined that there is only one area in the district that would fall into this category – a small area of Main Road in Kesgrave (A1214) near to the junction with Bell Lane. There is one section of road, approximately 50m in length, near to the traffic lit junction with Bell Lane where there is congestion for most of the day due to queuing at the traffic lights. This junction can be seen in Appendix D of this report. A Detailed Assessment monitoring study was undertaken for this section of road in 2003 the results of which were published in the 'Report on the Detailed Assessment and Continued Updating and Screening Assessment of air quality in the Suffolk Coastal District – March 2004'. The Detailed Assessment monitoring determined that the concentration of NO_2 at the closest receptor location to the road was 28.7µg/m^3 and there was no exceedance of the hourly objective.

Diffusion tubes have remained in place at several locations on the junction since this time, the results of which are presented in section 2.2.1 earlier in this report. The monitoring results show the site Kesgrave 9 (lampost at 119 Main Road, Kesgrave) to have the highest annual mean NO_2 concentration at 34µg/m^3. This is within the air quality objective of 40µg/m^3. Monitoring will continue at this junction and should the diffusion tube results

indicate an exceedance of the objectives in the future a Detailed Assessment will be undertaken.

Suffolk Coastal District 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

Defra have examined the results from previous Review and Assessment, which have shown that there will be some locations where members of the public may regularly spend one hour or more, e.g. streets with many shops or outside cafes/bars. At these locations the 1-hour objective for NO_2 will apply.

The technical guidance LAQM.TG (09) advises that if these types of location were specifically included during previous rounds of review and assessment and if there is no new/newly identified locations that fall into this category, then there is no need to proceed further.

In the previous rounds of review and assessment these types of location were fully investigated, and no further investigation will be necessary.
.

Suffolk Coastal District 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.

Defra have found from previous rounds of review and assessment that there will be some street locations where traffic flows are not necessarily high (less than 20,000 vehicles per day) but there is an unusually high proportion of buses and/or heavy goods vehicles (greater than 20%) and relevant exposure within 10 metres which could lead to exceedance of both the nitrogen dioxide (NO_2) and particulate matter (PM_{10}) objectives.

The technical guidance LAQM.TG (09) advises that if these types of location were specifically included during previous rounds of review and assessment then there is no need to proceed further.

In previous rounds of review and assessment these types of location were fully investigated. There is only one road with a proportion of heavy duty vehicles (HDVs) greater than 20% and totalling more than 2,500 vehicles per day within the Suffolk Coastal district, which is the A14 trunk road from the Haven Exchange roundabout at the Port of Felixstowe to the Ipswich Borough boundary. Emissions from traffic using the A14 trunk road do not come within the scope of this section of the report, however, as there are no relevant receptor locations within 10 metres of the road. No further investigation will be necessary.

Suffolk Coastal District Council confirms that there are no new/newly identified roads with high flows of buses/HDVs.

3.4 Junctions

This assessment needs to consider both NO_2 and PM_{10}. Concentrations of both pollutants are usually higher closer to junctions, due to the combined impact of traffic emissions from two roads and the higher emissions due to stop-start driving. Any junctions with a traffic flow greater than 10,000 vehicles per day and relevant exposure within 10m of the kerb should be investigated.

The technical guidance LAQM.TG (09) update advises that if road junctions were specifically included during previous rounds then there is no need to proceed further.

In the previous rounds of review and assessment these types of location were fully investigated. A Detailed Assessment has been undertaken for two of the road junctions investigated:

- **The junction of Lime Kiln Quay Road, Thoroughfare and St. John's Street in Woodbridge.** A Detailed Assessment was undertaken for NO_2 and PM_{10} at this junction in 2002. It concluded that it was unlikely (with a probability between 5% and 20%) that an exceedance of the annual mean NO_2 objective would occur. For PM_{10} it concluded that it was very unlikely (with a probability less than 5%) that an exceedance of the 24-hour PM_{10} objective would occur. It was therefore not necessary to declare an Air Quality Management Area for this junction.
  Following elevated NO_2 diffusion tube readings at the junction, a second Detailed Assessment was undertaken for NO_2 in 2005. It concluded that the annual mean objective for NO_2 was likely to be exceeded at two receptor locations and an Air Quality Management Area (AQMA) was declared and came into force in April 2006.

- **The junction of the A1152 and the B1438 in Melton (the Melton crossroads).** A Detailed Assessment was undertaken for NO_2 and PM_{10} at this junction in 2002. It concluded that it was unlikely (with a probability between 5% and 20%) that an exceedance of the annual mean NO_2 objective would occur. For PM_{10} it concluded that it was very unlikely (with a probability less than 5%) that an exceedance of the 24-hour PM_{10} objective would occur. It was therefore not necessary to declare an Air Quality Management Area for this junction. Since the modelling was undertaken in 2002, concentrations of NO_2 have continued to be monitored at two locations on the junction. The results of the diffusion tube monitoring have been detailed in each of the air quality reports produced since this time and the 2008 results are presented in Table 2.4 in section 2.2.1 earlier in this report. The results for 2008 show that the annual mean NO_2 concentration at the closest domestic receptor location to this junction is 28$\mu g/m^3$, and at Melton Primary School it is 18$\mu g/m^3$. Concentrations at both of these locations therefore continue to be well below the NO_2 objective level of 40 $\mu g/m^3$.

Suffolk Coastal District Council confirms that there are no new/newly identified busy junctions.

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

Suffolk Coastal District Council confirms that there are no new/proposed roads within the district.

3.6 Roads with Significantly Changed Traffic Flows

The technical guidance LAQM.TG(09) update advises that any roads with traffic flows greater than 10,000 vehicles per day which have experienced a 'large' increase in traffic flow, taken to be 25% or more, since the previous round of review and assessment should be considered in this Updating and Screening Assessment. This assessment needs to consider both NO_2 and PM_{10}.

The most recent available traffic flow data (for 2008) was obtained from Suffolk County Council Environment and Transport Department. The traffic data obtained is presented in Appendix G. For roads with a flow greater than 10,000 vehicles per day the percentage traffic increase between 2005 and 2008 was calculated. Where data was not available for the years 2005 and 2008 data was used from the nearest year to each date.

There are no roads with traffic flows greater than 10,000 vehicles per day which have experienced a traffic increase of 25% or more since the previous review and assessment. No further investigation is required.

Suffolk Coastal District Council confirms that there are no new/newly identified roads with significantly changed traffic flows.

3.7 Bus and Coach Stations

The technical guidance LAQM.TG (09) advises that concentrations of NO_2 may be elevated in the vicinity of bus/coach stations where there are large numbers of vehicle movements per day. This only applies to bus/coach stations that are not enclosed, have a flow of buses/coaches greater than 2,500 movements per day, and that have relevant exposure within 10 metres of the bus/coach station.

Using local knowledge of the district, there are no bus/coach stations within the Suffolk Coastal district with a flow of buses/coaches greater than 2,500 movements per day.

Suffolk Coastal District Council confirms that there are no relevant bus/coach stations in the Local Authority area.

4 Other Transport Sources

4.1 Airports

Suffolk Coastal District Council confirms that there are no airports in the Local Authority area.

4.2 Railways (Diesel and Steam Trains)

The technical guidance LAQM.TG (09) advises that stationary locomotives, both diesel and coal-fired, can give rise to high levels of sulphur dioxide (SO_2) close to the point of emission. Recent evidence suggests that moving diesel locomotives, in sufficient numbers, can also give rise to high nitrogen dioxide concentrations close to the track. LAQM.TG (09) advises that these two issues should be assessed separately.

4.2.1 Stationary Trains

The technical guidance LAQM.TG(09) advises that further investigation of SO_2 concentrations is needed if there are any areas where diesel or steam locomotives are regularly stationary (3 or more times per day) for periods of 15 minutes or more, and where there is the potential for regular outdoor exposure of members of the public within 15 metres.

In the previous rounds of review and assessment these types of location were fully investigated, and at all of the sites the objectives were not likely to be exceeded. The details regarding each location have been checked with Network Rail who confirmed that no changes have occurred since the last assessment. There are no areas we are aware of where there is any new relevant exposure. No further investigation is therefore required for stationary trains.

Suffolk Coastal District Council confirms 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 that are likely to cause an exceedance of the air quality objectives. No further investigation is required.

4.2.2 Moving Trains

New evidence has come to light that nitrogen dioxide (NO_2) concentrations are elevated alongside rail lines with a large number of diesel locomotive movements – the emissions can be equivalent to those from a busy road. Rail lines only need be considered where the background annual mean NO_2 concentration is above 25µg/m^3. A list of local authorities where the criteria might be met is provided on the Review and Assessment Helpdesk website. This list only includes information on passenger trains. Within the Suffolk Coastal district there is freight train movement to and from the Port of Felixstowe on the Ipswich to Felixstowe line which must be considered.

As rail lines only need to be considered where the background annual mean NO_2 concentration is above 25µg/m^3, (and this information is readily available from the national background maps at www.airquality.co.uk/archive/laqm/tools.php), we have investigated this aspect first.

The background NO_2 concentration along the Ipswich to Felixstowe rail line within the Suffolk Coastal district is below 25µg/m^3 at all relevant locations, with the highest background being 20.5µg/m^3. No further assessment is therefore required of NO_2 emissions from moving trains.

Suffolk Coastal District Council confirms that there are no locations with a large number of movements of diesel locomotives, a background NO_2 concentration above 25µg/m^3, and potential long-term relevant exposure within 30m.

4.2.3 The Felixstowe Branch Line and Ipswich Yard Improvement Order 2009

In connection with the grant of planning permission for the Felixstowe South Reconfiguration at the Port of Felixstowe, Felixstowe Dock and Railway Company entered into a deed under section 106 of the 1990 Act with Suffolk County Council and Suffolk Coastal District Council. The deed contains an obligation to undertake improvement works to the rail infrastructure. In order to undertake these works, the Felixstowe Branch Line and Ipswich Yard Improvement Order 2009 was made. This authorises the Felixstowe Dock and Railway Company, amongst other things, to dual a section of the Felixstowe Branch Railway Line.

A section of the branch line some 7 km in length eastwards from a point near Potter's Hole, east of the village of Nacton, to the western end of the existing two-track section through Trimley Station would be dualled by laying a second track to the south of the existing track. The doubling of this section of the line would increase its theoretical capacity from 25 to 38 freight trains per day in each direction, whilst retaining the passenger service between Ipswich and Felixstowe Town. The potential increase in the number of trains using the line would not alter the assessment made above regarding moving trains and will significantly reduce the number of occasions when trains are held at signals along the branch line, thereby also not effecting the results of the assessment made regarding stationary trains.

4.3 Ports (Shipping)

The technical guidance LAQM.TG (09) advises that the assessment for shipping needs to consider sulphur dioxide (SO_2) only. Large ships generally burn oils with high sulphur content in their main engines (bunker oils). If there are sufficient movements in a port they can give rise to sufficient number of 15-minute periods above 266 to exceed the 15-minute objective. Auxiliary engines used while berthed (hotelling) usually use a lower sulphur fuel, and are unlikely to be significant. If the shipping is using fuel with a sulphur content of less than 1% then it will not be necessary to take the assessment further. An authority will only need to proceed to Detailed Assessment where:

- there are 5,000 – 15,000 ship movements per year and relevant exposure within 250m of the emissions sources or
- There are more than 15,000 ship movements per year and relevant exposure within 1km of the emission sources.

LAQM.TG (09) advises that when determining the number of shipping movements at a port this should be confined to large ships such as cross-channel ferries, Ro-Ro, container ships and cruise liners. Every visit from a ship will generate 2 movements.

Harwich Haven Authority has advised that the total number of ship arrivals at the Port of Felixstowe was 3,599 in 2008. The number of shipping movements in 2008 was therefore 7,198. The Port of Felixstowe therefore falls within the category of 5,000 – 15,000 ship movements per year. If we also take into consideration shipping movements for Harwich – 4,222 in 2008 (based on 2,111 ship arrivals in 2008) the total ship movements in this area total 11,420. This still falls within the category of 5,000 – 15,000 ship movements per year.

The closest area of public exposure to the ship emissions is the viewing area at Landguard Point in Felixstowe, approximately 600m away from the main ship berthing area. The closest residential receptors are at Adastral close in Felixstowe, approximately 700m away from the main ship berthing area.

Under the guidance provided in LAQM.TG (09), as there are no public receptor locations within 250m of the emission source, we would not need to proceed to Detailed Assessment for SO_2 from shipping.

This conclusion is borne out in the findings of the 'Detailed Assessment for Adastral Close and Ferry Lane, Felixstowe May 2008'. The Detailed Assessment used the results obtained from a continuous analyser measuring SO_2 to model concentrations at receptors near to the Port of Felixstowe boundary. The Detailed Assessment determined that modelled SO_2 concentrations are less than the air quality objectives for all locations outside the port boundary for a number of modelled scenarios; these include the situation in 2007 and in future years with Felixstowe South and Bathside Bay developments in place. The report is available for viewing at www.suffolkcoastal.gov.uk/yourdistrict/envprotection/airquality/reports/

Suffolk Coastal District 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

The technical guidance LAQM.TG (09) advises that industrial sources are unlikely to make a significant local contribution to annual mean concentrations, but could be significant in terms of the short-term objectives. Sources in neighbouring authorities must also be considered. The assessment should consider all of the regulated pollutants, although those most at risk of requiring further work are SO_2, NO_2, PM_{10} and Benzene. There are three categories into which industrial installations may fall, each is detailed below.

5.1.1 New or Proposed Installations for which an Air Quality Assessment has been carried out

This approach should be followed if an air quality assessment has been undertaken for a new or proposed source.

Since the last Updating and Screening Assessment in 2006 there is one new industrial installation with the potential to emit significant quantities of NO_2 within the Suffolk Coastal district:

- Novera Energy, Foxhall Generation Plant, Foxhall Landfill Site, Foxhall Road, Brightwell

This installation is permitted by the Environment Agency under the Environmental Permitting Regulations 2007 as a Combustion Activity (under Section 1.1A (1) (b) (iii) of the Regulations). An Air Quality Assessment was undertaken for this process prior to its installation, which predicted no exceedences of the objectives at relevant receptor locations. Annual emissions testing of the Landfill Engine was undertaken in 2007 and 2008 which confirmed the emissions to be below those predicted in the original Air Quality Assessment. No further investigation is therefore necessary for this installation.

Suffolk Coastal District Council has assessed new/proposed industrial installations, and concluded that it will not be necessary to proceed to a Detailed Assessment.

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

Within the Suffolk Coastal district there are two existing industrial installations, permitted under the Environmental Permitting Regulations 2007, with the potential to emit significant quantities of the regulated pollutants. Both installations are permitted under 'Other Mineral Activities, Section 3.5 - coating road stone with tar or bitumen' and have the potential to emit significant quantities of PM_{10}:

- Cemex UK Materials Limited (Trading as Ipswich Coated Stone), Sinks Pit, Kesgrave
- Ringway Infrastructure Services, Foxhall Four Quarry, Foxhall Road, Brightwell

LAQM.TG (09) advises that it should be determined whether any of the installations have either experienced substantially increased emissions (greater than 30%) or have received new relevant exposure in their vicinity since the last review and assessment.

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Neither installation has received any new relevant exposure. Emission testing reports for both installations have been obtained for 2006, 2007 and 2008 for comparison with emissions recorded in 2006 (the date of the last review and assessment). **Ringway Infrastructure Services experienced a 62% increase in PM_{10} emissions between 2006 and 2007 and therefore require assessment here.**

Annual emissions of Total Particulate Matter (assumed to all be PM_{10} for this assessment) recorded from the road stone coating plant at Ringway Infrastructure Services from 2006 to 2008 are detailed below:

2006 – 0.51 tonnes per annum
2007 – 1.33 tonnes per annum
2008 – 0.42 tonnes per annum

LAQM.TG (09) provides a calculation method for PM_{10} emissions, in the form of nomograms, to estimate the emission rate (in tonnes per annum) that would produce a 1 $\mu g/m^3$ contribution to the 90th percentile of 24-hour mean concentrations (for assessment against the 2004 objective). If the actual emission rate from the installation exceeds these thresholds then it will be necessary to proceed to a Detailed Assessment.

The following information was obtained for the chimney at Ringway Infrastructure Service:

- Actual stack height = 16.5m
- Effective stack height (as situated in a quarry) = 16.5m minus 7m (height of quarry face) x 1.66 = 15.77m
- Exit temperature = 70^{o}C
- Stack diameter = 0.71m x 0.64m (as is a square stack). Advice obtained from the Defra emissions helpdesk who calculated stack diameter as 0.76m

As the exit temperature from the stack is less than 100^{o}C and the effective stack height is greater than 10m, the Technical Guidance LAQM.TG (09) advises (pg 5-34) to use nomogram Figure 5.5 for the assessment. Using this nomogram, the emission rate that would produce a 1 $\mu g/m^3$ contribution to the 90th percentile of 24-hour mean concentrations would be 0.4 tonnes per annum.

LAQM.TG (09) advises that for PM_{10} emissions the impact will be largely dependant on the background concentrations in the locality. A precautionary method of taking the background concentration into account is to multiply the allowed emission by 32 minus the background. This will give a background-adjusted permitted emission for the installation.

- The estimated annual mean background concentration for 2007 (the year when the elevated emissions occurred) at this location is 18 $\mu g/m^3$.
- 32 minus 18 = 14
- 0.4 tonnes per annum multiplied by 14 = 5.6 tonnes per annum.

The background-adjusted permitted emission for the installation is therefore 5.6 tonnes per annum. As the rate of emission in 2007 for the installation was 1.33 tonnes per annum, below 5.6 tonnes per annum, further Detailed Assessment is not required.

Suffolk Coastal District Council has assessed industrial installations with substantially increased emissions, and concluded that it will not be necessary to proceed to a Detailed Assessment.

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

Suffolk Coastal District Council confirms that there are no new or proposed industrial installations, without a previous air quality assessment, 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 Suffolk Coastal district area.

5.3 Petrol Stations

The technical guidance LAQM.TG (09) advises that there is some evidence that petrol stations could emit sufficient benzene to put the 2010 objective at risk of being exceeded, especially if combined with higher levels from nearby busy roads.

All petrol stations with an annual throughput of more than 2,000 cubic metres of petrol and a busy road nearby that have not been covered by previous review and assessment reports should be identified. A busy road is classified as having a traffic flow greater than 30,000 vehicles per day.

There are no new petrol stations within the Suffolk Coastal district since the Updating and Screening Assessment in 2006.

Suffolk Coastal confirms that there are no petrol stations meeting the specified criteria**.**

5.4 Poultry Farms

The technical guidance LAQM.TG (09) advises that a small number of local authorities have identified potential exceedences of the PM_{10} objectives associated with emissions from poultry farms (defined as chickens (laying hens and broilers), turkeys, ducks and guinea fowl).

Any farms housing in excess of: 400,000 birds if mechanically ventilated; 200,000 birds if naturally ventilated; and 100,000 birds if a turkey unit should be identified. Those farms identified (if any) with relevant exposure within 100m of the poultry units will require a Detailed Assessment.

Details of all poultry farms within the Suffolk Coastal District are listed in table 5.4.1 below. There are no poultry farms which meet the criteria for requiring a Detailed Assessment and no further investigation is necessary.

Table 5.4.1 Details of poultry farms within the Suffolk Coastal District

Farm details	Number of birds housed	Type of bird	Type of Ventilation	Require Detailed Assessment?
St. Lawrence Farms Ltd., Wenhaston Farm, Wenhaston	85,000	Broilers	Mechanical	No
Crown Chicken Ltd, Heveningham Poultry Site, Heveningham	285,000	Broilers	Mechanical	No
Red House Farm, Badingham	64,000	Broilers	Mechanical	No
Great Pinners Farm, Tuddenham St Martin	50,000	Ducks	Not stated	No
Grampian Country Chickens (Rearing) Ltd., Otley Poultry Farm, Otley	113,100	Broilers	Mechanical	No
Grampian Country Chickens (Rearing) Ltd., Framlingham	185,100	Broilers	Mechanical	No
Grampian Country Chickens (Rearing) Ltd., Earl Soham	102,200	Broilers	Mechanical	No
Grampian Country Chickens (Rearing) Ltd., High House Farm, Peasenhall	98,100	Broilers	Mechanical	No
Grampian Country Chickens (Rearing) Ltd., Green Poultry Farm, Badingham	196,200	Broilers	Mechanical	No
P.R & R.H Leggett Ltd., Walnut Tree Farm, Ashbocking	14,000	Ducks	Not stated	No
Gressingham Farms, Loomswood Farm, Debach	125,700	Ducks	Not stated	No
Gressingham Farms, Maple Tree Farm, Tuddenham St Martin	58,000	Ducks	Not stated	No
Crown Chickens Ltd., Darsham Poultry Farm, Thorington	145,000	Broilers	Mechanical	No
Hook 2 Sisters Ltd., Driftway Farm, Halesworth	89,625	Broilers	Mechanical	No
Grampian Country Chickens (Rearing) Ltd., Peasenhall Poultry Farm, Peasenhall	85,400	Broilers	Mechanical	No
Hillfairs Poultry Farm, Thorington Quarry, Thorington.	351,000	Broilers	Mechanical	No

Suffolk Coastal District Council confirms that there are no poultry farms meeting the specified criteria.

6 Commercial and Domestic Sources

Consideration is given to the use of biomass combustion in the commercial and domestic sectors, and to other solid-fuel combustion in domestic use. The significance of domestic biomass combustion is currently thought to be relatively small; however it may become more significant in the future. There are concerns, particularly in London, that a significant increase in biomass combustion generally, and in particular the use of wood fuel, could detrimentally affect local air quality.

Biomass burning can lead to an increase in PM_{10} emissions, due to the process of combustion – aerosol formation from volatile materials distilled from the wood is also an issue. Compared to conventional gas-burning, biomass burning can also result in an increase in the overall NO_X emissions due to the fuel-derived portion that is not present in gas combustion.

6.1 Biomass Combustion – Individual Installations

LAQM.TG (09) advises that consideration needs to be given to biomass installations in the range 50kW to 20MW thermal, to see if there is potential for the air quality objectives to be exceeded. Both PM_{10} and NO_2 should be considered.

Once any biomass plant within this range has been identified the following information is required in order to undertake a screening assessment:

- Height of stack
- Diameter of stack
- Dimensions of any buildings present within 5 times the stack height
- Description of the combustion appliance
- Maximum emission rates (g/sec) of NO_X and PM_{10}
- Background concentration of NO_X and PM_{10} (available from national background maps provided by Defra).

The range of biomass plant that needs to be considered for the Updating and Screening Assessment is quite broad. There may be many smaller units that will not require planning permission and will therefore be very difficult to identify. We have been working on a way forward to try and identify as many sites with biomass plant within the district, as follows;

- Information has been obtained from Suffolk County Council regarding a list of premises (mainly schools) within the district that have biomass plant already installed. The Noise and Air Quality Manager at Suffolk County Council will now be screening any new biomass plant proposed for installation using the LAQM.TG(09) guidance. The premises that we are aware of currently using biomass plant are as follows:
  - Rendlesham CPS
  - Eyke CPS
  - Cookley & Walpole CPS
  - Knodishall Coldfair Green CPS
  - Hollesley CPS
- Any biomass plant which requires planning permission, or is on a site which requires planning permission, is being assessed at the application stage for potential exceedences of the PM_{10} and NO_2 objectives.

- We are aware of one company based within the district which supplies biomass boilers and we will be approaching them to obtain any information they are able to provide regarding plant installed within the district.
- We will search the internet and any other sources we can think of to look for any biomass plant installed within the district.

Work has begun to draw up a list of sites with biomass plant that will require assessment. We will work to obtain the necessary information regarding each plant in order to undertake the screening assessment. The findings from this investigation will be presented in the next air quality Progress Report, due for production in April 2010.

Suffolk Coastal District Council is currently working to obtain the information required in order to assess the biomass combustion plant within the district. The findings from the assessment will be presented in the next air quality Progress Report, due for production in April 2010.

6.2 Biomass Combustion – Combined Impacts

There is the potential that many small biomass combustion installations (including domestic solid-fuel burning), whilst individually acceptable, could in combination lead to unacceptably high PM_{10} concentrations, particularly in areas where PM_{10} concentrations are close to or above the objectives.

The Technical Guidance LAQM.TG (09) advises that areas (in 500m x 500m squares) with the highest densities of houses and service sector biomass combustion appliances should be identified.

From the limited information we possess regarding the positions of biomass combustion plant within the district, there are only a few domestic and commercial premises using biomass combustion units at the present time. Those that we are aware of are located in isolation and are generally found in the more rural areas of the district. Certainly there are no areas (500m x 500m) that we are aware of where there are several commercial premises using biomass combustion plant in close proximity.

This leaves the investigation of any areas where there is significant domestic biomass combustion usage, including solid-fuel burning. There is a Frequently Asked Question (FAQ) on Defra's Review and Assessment website relating to this subject which provides additional information (www.uwe.ac.uk/aqm/review/manswers.html#DOM1). The FAQ provides a nomogram for calculating the minimum number of households per 500m x 500m area, all burning wood in an open fireplace as their primary source of heat, which would trigger a Detailed Assessment. The nomogram is based upon the background PM_{10} concentration in the area. The nomogram represents the worst-case situation as it assumes that the wood is burnt as the primary source of heat and also in an open fireplace – if advanced wood-burning stoves are being used then the emissions will be lower and therefore the number of households required to trigger a Detailed Assessment would be higher.

In order to use the nomogram, the background PM_{10} concentration is needed for each area of concern. The background PM_{10} concentrations for all grid squares within the district have been obtained from the national background maps provided by Defra (available at www.airquality.co.uk/archive/laqm/tools.php). The majority of the background concentrations within the district fall between 15 and 18µg/m^3, there are a handful of grid squares with higher concentrations (up to 23µg/m^3) but investigations of each square

confirmed that they are not areas where there may be a high density of housing using solid fuel. For the nomogram, the worst-case concentration of 18µg/m^3 has been used to cover the whole district. The nomogram advises that approximately 320 households would be required to be using solid-fuel as their primary source of heat in a 500m x 500m area in order to trigger a Detailed Assessment.

In 2003/2004 an in-depth investigation was undertaken regarding solid fuel usage within the district. For each Parish within the district the following information was obtained (and is presented in Appendix J):

- Housing density - using the Council's Geographical Information System (GIS)
- the presence of a gas supply (information obtained from TRANSCO)
- Whether the 2001 Census data showed more than 50 houses in the Parish without central heating
- The number of complaints received regarding smoke from chimneys between 2000 and 2003.

The above information was used to identify Parishes that required a visual inspection to collate the number of chimneys with smoke coming from them. Nine Parishes fell within the criteria for a visual inspection and all had a mains gas supply present (see Appendix J). A visual inspection of the main built-up areas within each Parish was made in February 2004, assessments were undertaken on Sundays and after 18:30 hours on weekdays, times when householders would be likely to be at home using their heating and hot water. The number of houses seen with smoke coming from their chimney in each of the 9 Parishes is detailed in Appendix J. The Parish with the largest number of smoking chimneys seen was Leiston with 22. Advice was also sought from the Suffolk Coastal Private Sector Housing Team and 2 of the larger solid fuel merchants that serve the district. Their comments were that the use of solid fuel is generally decreasing with the majority of the rural Parishes using oil or electricity as their main source of heating. There are a number of properties using solid fuel in 1 or 2 rooms of their house, but these have an alternative source of fuel for their main heating. The number of customers served by the solid fuel merchants over the summer months is very limited, and these would be households most likely to be dependent on solid fuel as their main source of heating and hot water.

It is concluded that there are no areas within the district that would trigger a Detailed Assessment for combined impacts of biomass use.

Suffolk Coastal District Council has assessed the potential for combined impacts from biomass use, and concluded that it will not be necessary to proceed to a Detailed Assessment.

6.3 Domestic Solid-Fuel Burning

The previous rounds of Review and assessment have identified areas where domestic solid fuel burning gives rise to exceedences of the objectives for SO_2. Areas (500m x 500m) where significant coal burning (more than 50 houses) takes place should be identified. Smokeless fuel has a similar sulphur content to coal and so should be treated in the same way.

Detailed information has been obtained in previous Review and Assessments regarding domestic solid fuel usage and is presented in the previous section (6.2) of this report. There

are no areas within the district that would trigger a Detailed Assessment for domestic solid-fuel burning.

Suffolk Coastal District Council confirms that there are no areas of significant domestic fuel use in the Local Authority area.

7 Fugitive or Uncontrolled Sources

Dust emissions from a number of fugitive and uncontrolled sources can give rise to elevated PM_{10} concentrations. These sources include, but are not limited to:

- Quarrying and mineral extraction
- Landfill sites
- Coal and material stockyards or materials handling
- Major construction works
- Waste management sites

Only locations not covered by previous rounds of Review and Assessment, or where there is new relevant exposure, should be covered in this section.

In the previous rounds of review and assessment these locations were fully investigated, and at all of the sites within the district the objectives were not likely to be exceeded. The details regarding each location have been checked and it is confirmed that no significant changes have occurred since the last assessment. There are no new locations with significant emissions and no areas we are aware of where there is any new relevant exposure. No further investigation is therefore required for fugitive and uncontrolled emissions.

Suffolk Coastal District Council confirms that there are no potential sources of significant fugitive particulate matter emissions in the Local Authority area.

8 AQMA updates

8.1 Junction of Lime Kiln Quay Road, Thoroughfare and St. John's Street in Woodbridge (Woodbridge Junction)

On 3 March 2006 an Air Quality Management Area Order was made by Suffolk Coastal District Council for the Woodbridge Junction, this came into effect on 3 April 2006. The designated area incorporates properties on the Western side of the Thoroughfare and Melton Hill arm of the junction with Lime Kiln Quay Road, in Woodbridge, Suffolk. A copy of the AQMA Order is included as Appendix A.

A Further Assessment was produced for the Woodbridge junction in October 2007 confirming the need for, and the extent of, the AQMA. A full public Consultation was undertaken at the time of the declaration and a great number of responses and suggestions were received. Additional responses and suggestions have continued to be received since this time. A draft Air Quality Action Plan is to be submitted to the Council's Cabinet in October 2009 for consideration. The draft Action Plan includes all suggestions received regarding options for reducing the concentration of NO_2 at this junction.

8.2 The Dooley Inn, Ferry Lane, Felixstowe

A Detailed Assessment report investigating emissions from and associated with the Port of Felixstowe was produced in May 2008. The assessment concluded that the objectives for both SO_2 and PM_{10} would not be exceeded at relevant receptor locations and declaration of an AQMA was not required. The Detailed Assessment concluded, for NO_2, that the annual mean objective was not met in 2007 and the modelling predicted that this would continue to be the case in future years once Felixstowe South Reconfiguration (FSR) was on-line. It was recommended that an AQMA should be declared for the annual mean NO_2 objective to cover the Dooley Inn, Ferry Lane.

The AQMA Order was made by Suffolk Coastal District Council for the Dooley Inn, Ferry Lane, Felixstowe with regard to the annual mean NO_2 concentration on 1 May 2009. A copy of the AQMA Order is included as Appendix B.

A Further Assessment must be produced within 12 months confirming the extent of the AQMA and providing detail on source apportionment, and an Action Plan detailing options to reduce concentrations of NO_2 at the Dooley Inn should be produced ideally within 18 months.

External consultants TRL (Transport Research Laboratories) have been commissioned to complete both the Further Assessment and draft Action Plan for the AQMA and work has begun on these two tasks.

A full public consultation was undertaken regarding the AQMA declaration in November 2008 and a number of responses and suggestions have been received to date. All relevant suggestions will be investigated in order to form the final draft Action Plan.

The Detailed Assessment modelling study also indicated that there is a risk that the objective for NO_2 will not be met at approximately fifteen additional properties at the west end of Adastral Close in 2010 and beyond following the FSR. As part of the Further Assessment modelling being undertaken for The Dooley Inn AQMA, projected future NO_2 concentrations

at Adastral Close with FSR on-line will be confirmed and any further action deemed necessary will be taken.

9 Conclusions and Proposed Actions

9.1 Conclusions from New Monitoring Data

Monitoring undertaken in 2008 by automatic NO_X analysers situated within the AQMAs at Woodbridge and Felixstowe confirm that the annual mean NO_2 objective continues to be exceeded at both locations, but that the 1–hour objective is not exceeded at either site.

The results of NO_2 monitoring undertaken in 2008 using diffusion tubes show a number of sites within the district where the annual mean NO_2 objective is exceeded. All of these sites are within the declared AQMAs at either Woodbridge or Felixstowe.

Two diffusion tube sites within Woodbridge measured annual mean NO_2 levels of 39 $\mu g/m^3$ in 2008, very close to the annual mean objective. One of these sites (Woodbridge 15) is within the declared AQMA. Monitoring at the other site (Woodbridge 18) is continuing, and if the objective is exceeded in the future consideration will be given to either extending the current AQMA or declaring a second one in Woodbridge. Woodbridge 18 is in close proximity to the current AQMA and will benefit from measures implemented as part of the Air Quality Action Plan being drawn up for the Woodbridge Junction.

9.2 Conclusions from Assessment of Sources

Assessment of road traffic and other transport sources within the district has not identified any new or significantly changed sources which require Detailed Assessment.

There is one new industrial source, Novera Energy at Foxhall Four Quarry in Brightwell, which has been assessed for emissions of NO_2. This is a new Permitted Process regulated by the Environment Agency, for which an air quality assessment was provided at the time of application concluding that the NO_2 objectives would not be exceeded at nearby receptor locations. Emission testing from the installation has confirmed that releases are not above the modelled levels and no additional assessment is required at this time.

There is one industrial source with substantially increased emissions of PM_{10}, Ringway Infrastructure Services also located at Foxhall Four Quarry in Brightwell. This is a Permitted Process regulated by the District Council. Assessment of PM_{10} emissions using the Technical Guidance provided in LAQM.TG (09) has determined that the process is not likely to cause exceedance of the PM_{10} objectives and it will not be necessary to proceed to a Detailed Assessment.

Assessment of Poultry Farms within the district concludes that there are none which meet the specified criteria to require a Detailed Assessment.

Assessment of commercial and domestic sources has identified that insufficient information is available at this time to investigate biomass combustion within the district. Work has begun in order to draw up a list of sites with biomass plant, and the Council will then work to obtain the necessary information for each plant in order to undertake the screening assessment.

Regarding fugitive and uncontrolled sources, there are no potentially significant emissions in the Local Authority area.

9.3 Proposed Actions

This Updating and Screening Assessment has not identified the need to proceed to a Detailed Assessment for any pollutant. Work is continuing in order to identify biomass combustion plant within the district which requires a screening assessment. Findings from this investigation will be presented in the next air quality Progress Report.

Monitoring has confirmed the need for, and extent of, the AQMA at the Woodbridge Junction and The Dooley Inn, Ferry Lane, Felixstowe and is continuing.

The draft Action Plan for the Woodbridge Junction AQMA is to be taken to the Council's Cabinet in October 2009 for consideration. Work is progressing to produce the Further Assessment and draft Action Plan for the AQMA at The Dooley Inn, Ferry Lane, Felixstowe. The next air quality Progress Report is due to be completed and submitted in 2010.

10 References

1. *Environment Act 1995*, Chapter 25. HMSO, 1997.

2. *Air Quality (England) Regulations 2000* – S.I 2000, No 928. HMSO, 2000.

3. *Air Quality (England) Amendment Regulations 2002* – S.I 2002, No. 3043. HMSO, 2002.

4. *The Environmental Permitting (England and Wales) Regulations 2007* – S.I 2007, No. 3538. HMSO, 2007.

5. *The Air Quality Strategy for England, Scotland, Wales and Northern Ireland (Volume 1 and 2)*. Report by the Department of Environment, Food and Rural Affairs in partnership with the Scottish Executive, Welsh assembly Government and Department of the Environment Northern Ireland. DEFRA Publications, July 2007.

6. *Part IV of the Environment Act 1995, Local Air Quality Management, Technical Guidance. LAQM.TG (03).* Report by the Department of Environment, Food and Rural Affairs, Scottish Executive, National Assembly for Wales and the Department of the Environment in Northern Ireland. DEFRA Publications, February 2003

7. *Part IV of the Environment Act 1995, Local Air Quality Management, Technical Guidance. LAQM.TG (09).* Report by the Department of Environment, Food and Rural Affairs in partnership with the Scottish Executive, Welsh assembly Government and Department of the Environment Northern Ireland. DEFRA Publications, February 2009.

8. *Part IV of the Environment Act 1995, Local Air Quality Management, Policy Guidance PG (09).* Report by the Department of Environment, Food and Rural Affairs in partnership with the Scottish Executive, Welsh assembly Government and Department of the Environment Northern Ireland. DEFRA Publications, February 2009.

9. *Report on the Updating and Screening Assessment of Air Quality in the Suffolk Coastal District.* Produced by Suffolk Coastal District Council, September 2006.

10. *Air Quality Review and Assessment. Further Assessment for Woodbridge Junction, Woodbridge.* Prepared by AEA Technology plc under contract to Suffolk Coastal District Council, Revised October 2007.

11. *Air Quality Review and Assessment. Detailed Assessment for Adastral Close and Ferry Lane, Felixstowe.* Prepared by AEA Technology plc under contract to Suffolk Coastal District Council, May 2008 (Version 2).

12. *Progress Report. Air Quality in the Suffolk Coastal District.* Produced by Suffolk Coastal District Council, July 2008.

13. *Suffolk Coastal District Council website* – all air quality reports produced by Suffolk Coastal District Council can be viewed at http://www.suffolkcoastal.gov.uk

14. *National Air Quality Information Archive – National Background Maps*. Information from which can be viewed at www.airquality.co.uk/archive/laqm/tools/php. *Defra*

Appendices

Appendix A: AQMA Order - Woodbridge Junction

Appendix B: AQMA Order - Ferry Lane, Felixstowe

Appendix C: QA/QC Data

Appendix D: Maps showing NO_2 diffusion tube locations

Appendix E: NO_X analyser results summaries

Appendix F: NO_2 diffusion tube results for 2008

Appendix G: Traffic count information

Appendix H: Environmental Permitting Regulations 2007 – process list

Appendix I: Consultation responses

Appendix J: Domestic solid-fuel burning information

Appendix A:
AQMA Order - Woodbridge Junction

Environment Protection Act 1995, Part IV section 83(1)

Suffolk Coastal District Council

Air Quality Management Area Order

THE SUFFOLK COASTAL DISTRICT COUNCIL AIR QUALITY MANAGEMENT AREA ORDER NO 1, 2006

Suffolk Coastal District 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 Suffolk Coastal District Council Air Quality Management Area Order No 1, 2006',** and shall come into effect on the **3rd April 2006**

The area shown on the attached map hatched in red is to be designated as an air quality management area (the designated area). **The designated area incorporates properties on the Western side of the Thoroughfare and Melton Hill arm of the junction with Lime Kiln Quay Road, in Woodbridge, Suffolk.**

The map may be viewed at the Council Offices, at Melton Hill, Woodbridge, between the hours of 08.45am to 5.15pm Mondays to Thursdays, and 08.45am to 4.45pm on Fridays.

This Area is designated in relation to a likely breach of the nitrogen dioxide (annual mean) objective as specified in the Air Quality Regulations (England) (Wales) 2000.

This order shall remain in force until it is varied or revoked by a subsequent order.
Dated; this Third day of March 2006

The Common Seal of Suffolk Coastal District Council was affixed in the presence of;

Ian S de Prez

……..
Authorised Officer

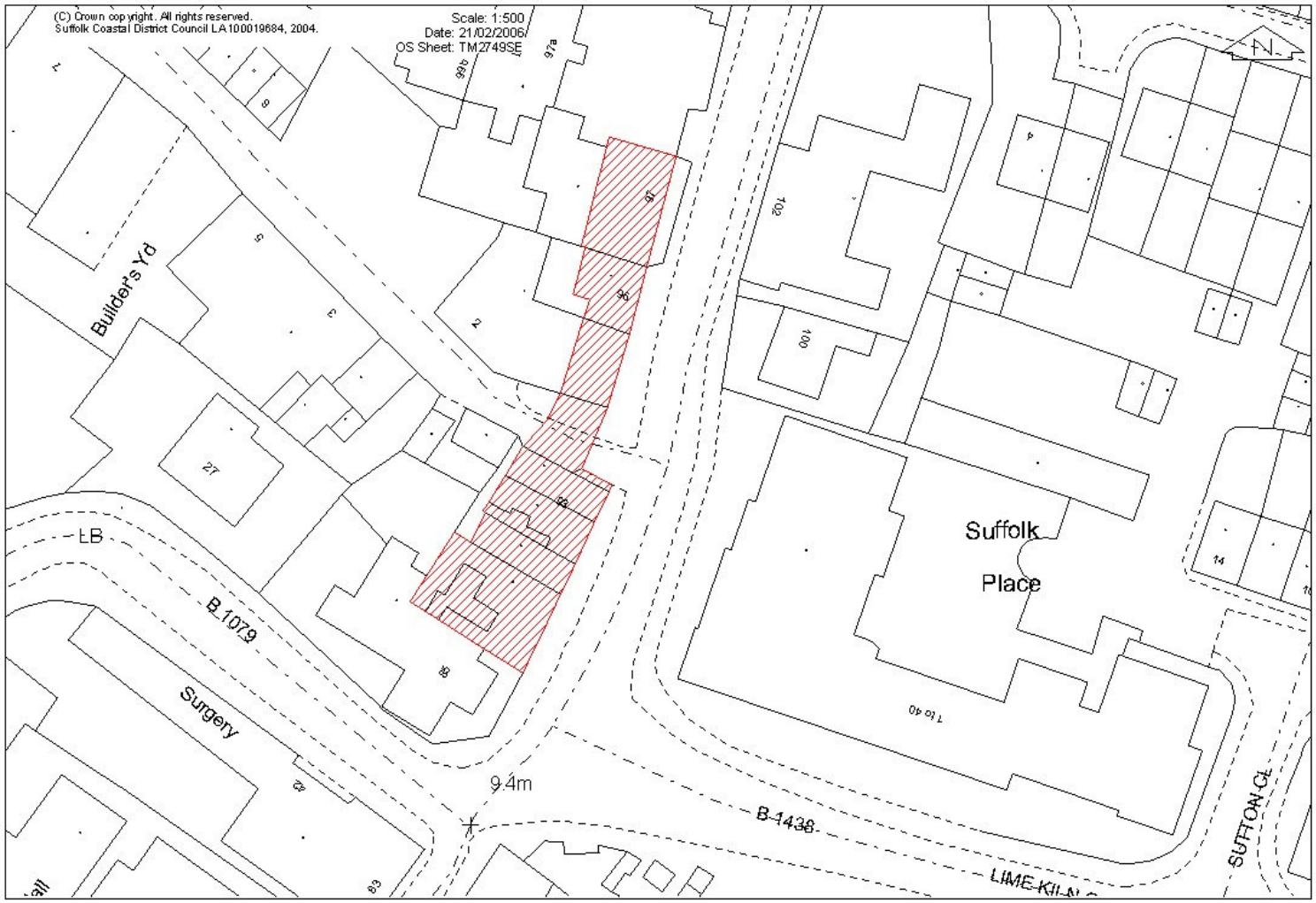
And

Simon Burridge

…… **CS** 9281
Authorised Officer

Dated: 3rd March 2006

THE SUFFOLK COASTAL DISTRICT COUNCIL AIR QUALITY MANAGEMENT AREA ORDER NO 1, 2006



Appendix B:
AQMA Order – Ferry Lane, Felixstowe

Environment Protection Act 1995, Part IV section 83(1)
Suffolk Coastal District Council

Air Quality Management Area Order

THE SUFFOLK COASTAL DISTRICT COUNCIL AIR QUALITY MANAGEMENT AREA ORDER NO 2, 2009

Suffolk Coastal District 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 Suffolk Coastal District Council Air Quality Management Area Order No 2, 2009',**

and shall come into effect on the **1st May 2009**
The area shown on the attached map hatched in red is to be designated as an air quality management area (the designated area).

The designated area contains the property known as The Dooley Inn, situated at Ferry Lane, Felixstowe, Suffolk.

The map may be viewed at the Council Offices, at Melton Hill, Woodbridge, between the hours of
08.45am to 5.15pm Mondays to Thursdays and 08.45am to 4.45pm on Fridays.

This Area is designated in relation to a likely breach of the nitrogen dioxide (annual mean) objective as specified in the Air Quality Regulations (England) (Wales) 2000.

This order shall remain in force until it is varied or revoked by a subsequent order.
Dated; this Twenty-third day of April 2009

The Common Seal of Suffolk Coastal District Council was affixed in the presence of;

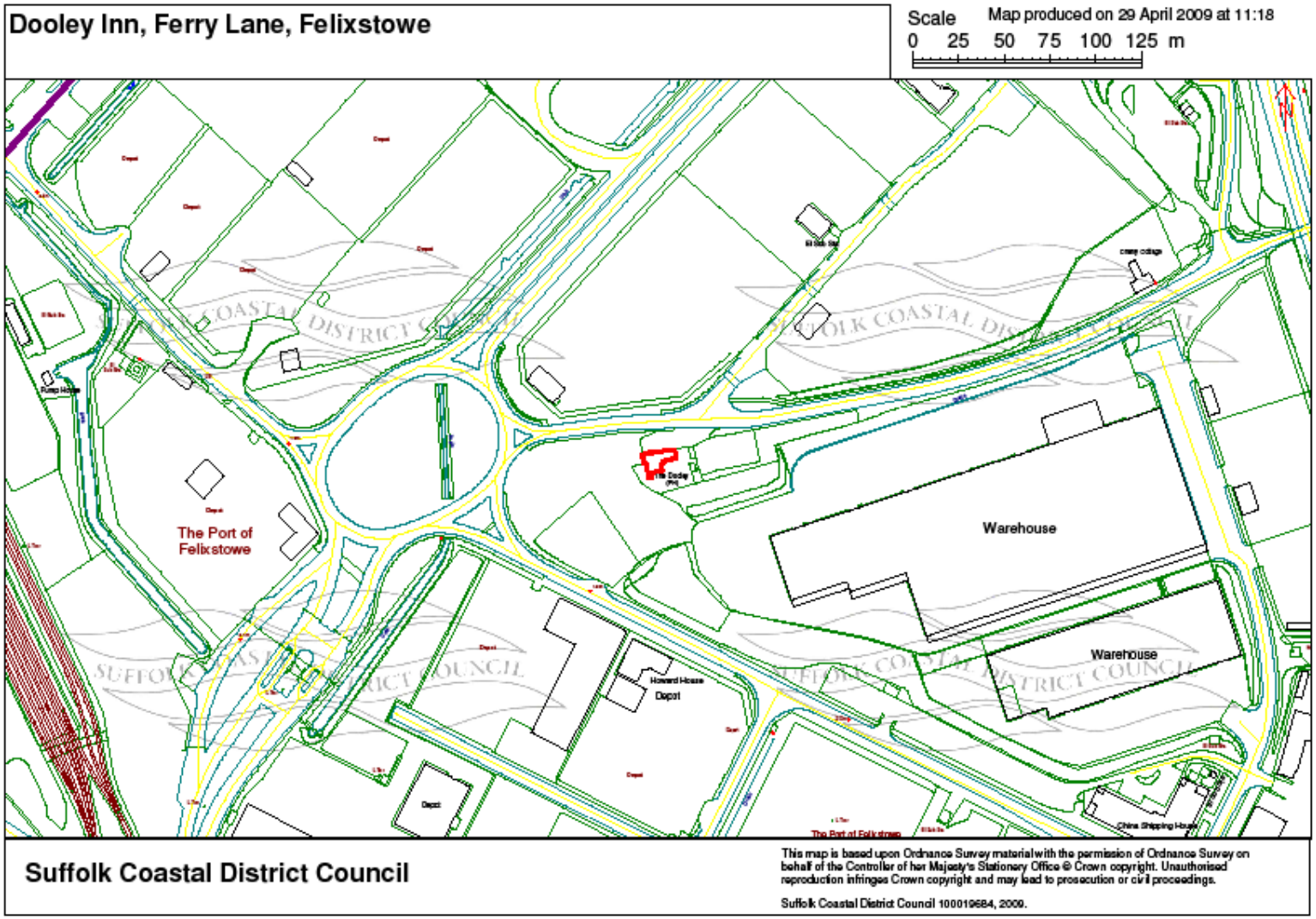
Ian S de Prez
……..
Authorised Officer

And

Simon Burridge
…… **CS** 9281
Authorised Officer

Dated 23rd April 2009

Suffolk Coastal District Council - England



Appendix C: QA: QC Data

Diffusion Tube Bias Adjustment Factors

The analytical laboratory used for supply and analysis of NO_2 diffusion tubes is Harwell Scientifics. The monitoring is undertaken using Palmes passive diffusion tubes exposed on a monthly basis. The tubes are prepared by spiking acetone:triethanloamine (TEA) (50:50) onto the grids prior to the tubes being assembled. The tubes are then desorbed with distilled water and the extract analysed using a segmented flow auto-analyser with ultraviolet detection. The laboratory is formally accredited under the United Kingdom Accreditation Scheme (UKAS).

The bias adjustment factor for Harwell Scientifics in 2008 was obtained from the Review and Assessment Help desk 'National Spreadsheet of Bias Adjustment Factors v.03/09'. This was calculated as **0.8**, using results from 7 different sites.

Factors from Local Co-location Studies (if available)

Woodbridge

Kerbside monitoring site recording NO_2 concentrations derived from road traffic emissions at the junction of Lime Kiln Quay Road, Thoroughfare, and St. John's Street in Woodbridge. The site is approximately 1 metre from the kerb and 14 metres from the traffic lights at the junction. This area of the junction is very narrow and enclosed by tall buildings, creating a canyon effect.

The bias correction factor was calculated using the Precision and Accuracy Spreadsheet provided by the UK Air Quality Archive.

NOx analyser annual mean (2008) = 46 µg/m^3 with 99% data capture
Triplicate diffusion tube mean (2008) = 51 µg/m^3 with Precision of 5
Bias correction factor (2008) = 0.9

Felixstowe

Industrial / Roadside monitoring site recording NO_2 concentrations derived from activities on and associated with the Port of Felixstowe and Dock Gate 2 roundabout. Site is approximately 75m from Dock Gate 2 roundabout and 130m from the Port of Felixstowe boundary.

The bias correction factor was calculated using the Precision and Accuracy Spreadsheet provided by the UK Air Quality Archive.

NOx analyser annual mean (2008) = 42 µg/m^3 with 97% data capture
Triplicate diffusion tube mean (2008) = 55 µg/m^3 with Precision of 7
Bias correction factor (2008) = 0.77

Discussion of Choice of Factor to Use

The local bias correction factor obtained for the Woodbridge co-location study (0.9) has been used to adjust all diffusion tubes sited within Woodbridge. As this location is unusual in character, being a street canyon, this bias correction factor has not been used to correct any

other diffusion tube locations within the district. The use of this factor is conservative for the Woodbridge monitoring locations.

The local bias correction factor obtained for the Dooley Inn, Ferry Lane, Felixstowe site (0.77) has been used to adjust the two diffusion tube sites at the Dooley Inn. As this factor is the least conservative of the three available, it has not been used to adjust any other diffusion tube sites for bias.

All other diffusion tube monitoring sites within Felixstowe and the sites within Kesgrave and Melton have been adjusted for bias using the analytical laboratory factor of 0.8.

Bias adjustment of the annual mean diffusion tube result for all sites is shown in Appendix E.

QA/QC of automatic monitoring

NO_2 concentrations were monitored at both continuous analyser sites by ozone chemiluminescence. Quality assurance of the data from the continuous monitoring stations was carried out by AEA Energy and Environment following the same procedures used for sites within the Government's Automatic Urban and Rural Network. Calibrations were undertaken fortnightly by a Council Officer, the procedures adopted for the calibrations were modelled on those developed by AEA Energy & Environment for use in the national monitoring networks. The calibrations were undertaken using certified calibration gas provided by Air Liquide UK Limited with traceability to National Metrology Standards obtained via regular UKAS Quality Control Audits carried out by AEA Energy & Environment. The audits provide a range of information that is utilised within the data management process for the data sets.

Audit tests undertaken include accredited audit zero and span calibrations, linearity, NO_x converter efficiency, flow and leak checks as well as checks of the instruments sampling system. Data presented in this report have been fully ratified by AEA Technology. The ratified data reports are included in Appendix.

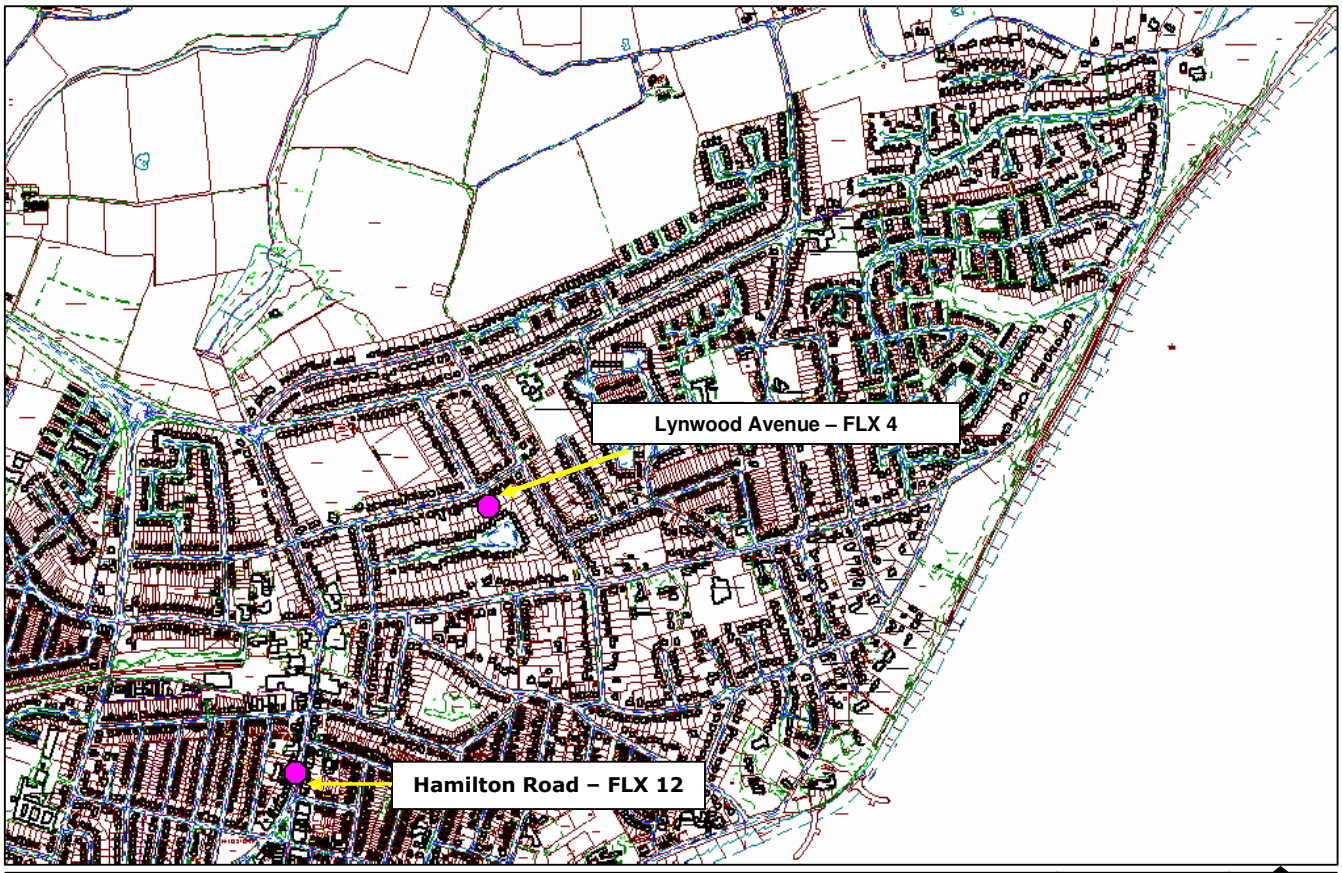
The data sets were screened, scaled and validated using all available routine site calibrations, audit results and service engineer records. This was an ongoing process with checks made daily to ensure high data capture is achieved. A final process of data ratification ensures that the data provide the most accurate record of the pollution concentrations across the measurement period. The data management process adopted is that evolved and implemented by AEA Energy & Environment within the data management programme of the AURN UK national monitoring network. This process is expected to deliver data sets that meet the EU Data Quality Objective of a measurement uncertainty of better than 15%.

QA/QC of diffusion tube monitoring

The analysis of NO_2 diffusion tubes by Harwell Scientifics meets the guidelines set out in Defra's 'Diffusion tubes for Ambient NO_2 Monitoring: Practical Guidance'. They participate in the Workplace Analysis Scheme for Proficiency (WASP) for analysis of diffusion tubes. This is an inter laboratory comparison study for analysing spiked NO_2 diffusion tubes and the results show that Harwell Scientifics was ranked as a **Category Good** laboratory in 2008.

Appendix D:
Maps showing NO_2 diffusion tube locations

NO_2 diffusion tube locations in Felixstowe



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Not to Scale

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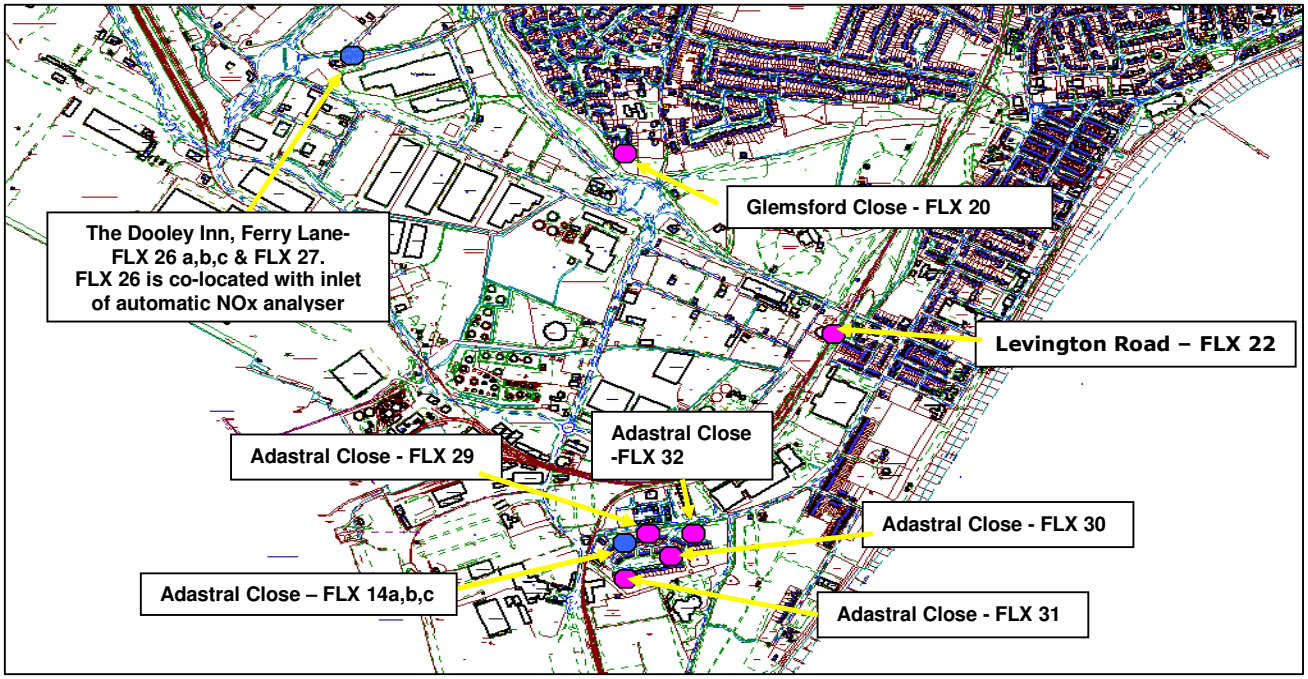
Single diffusion tube site

Suffolk Coastal District Council - England



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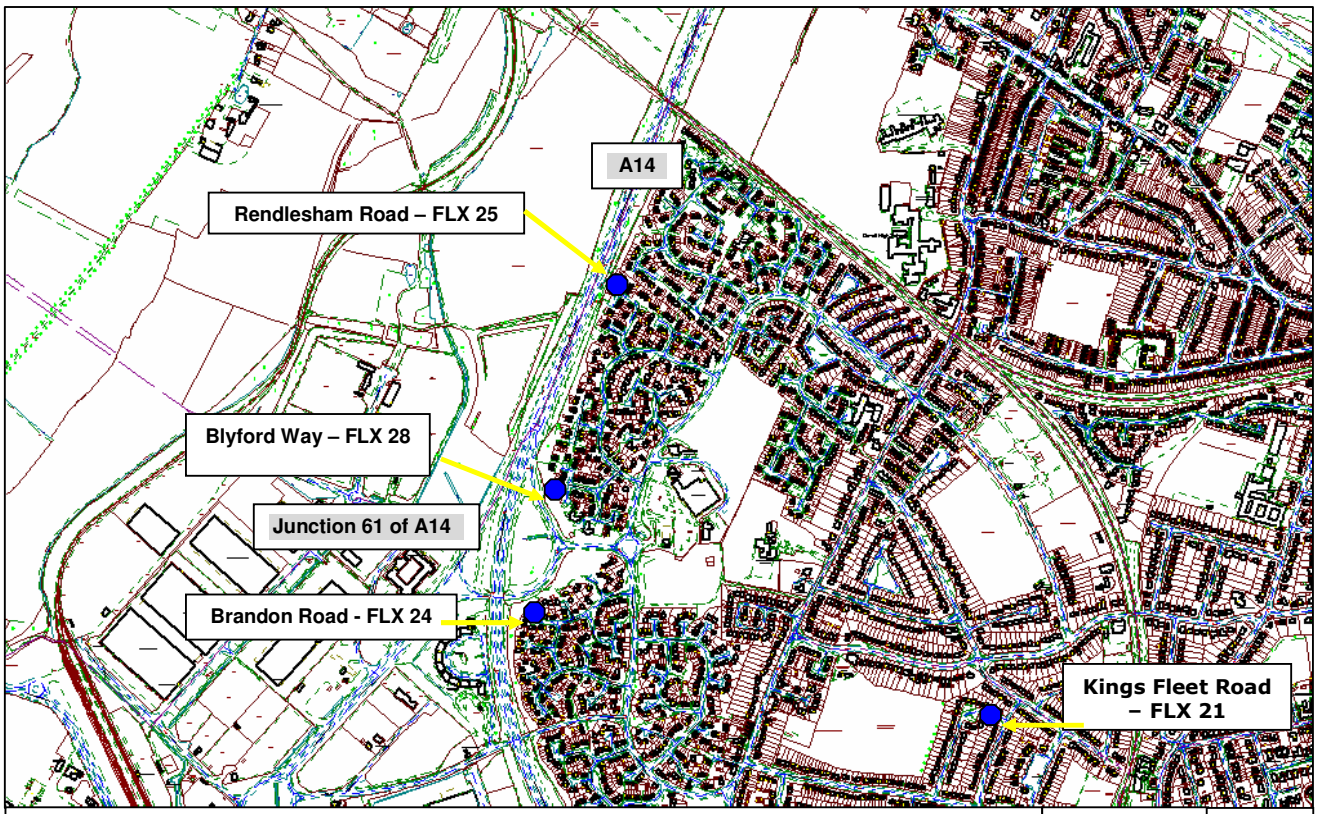
Single Diffusion Tube Site Triplicate Diffusion Tube Site



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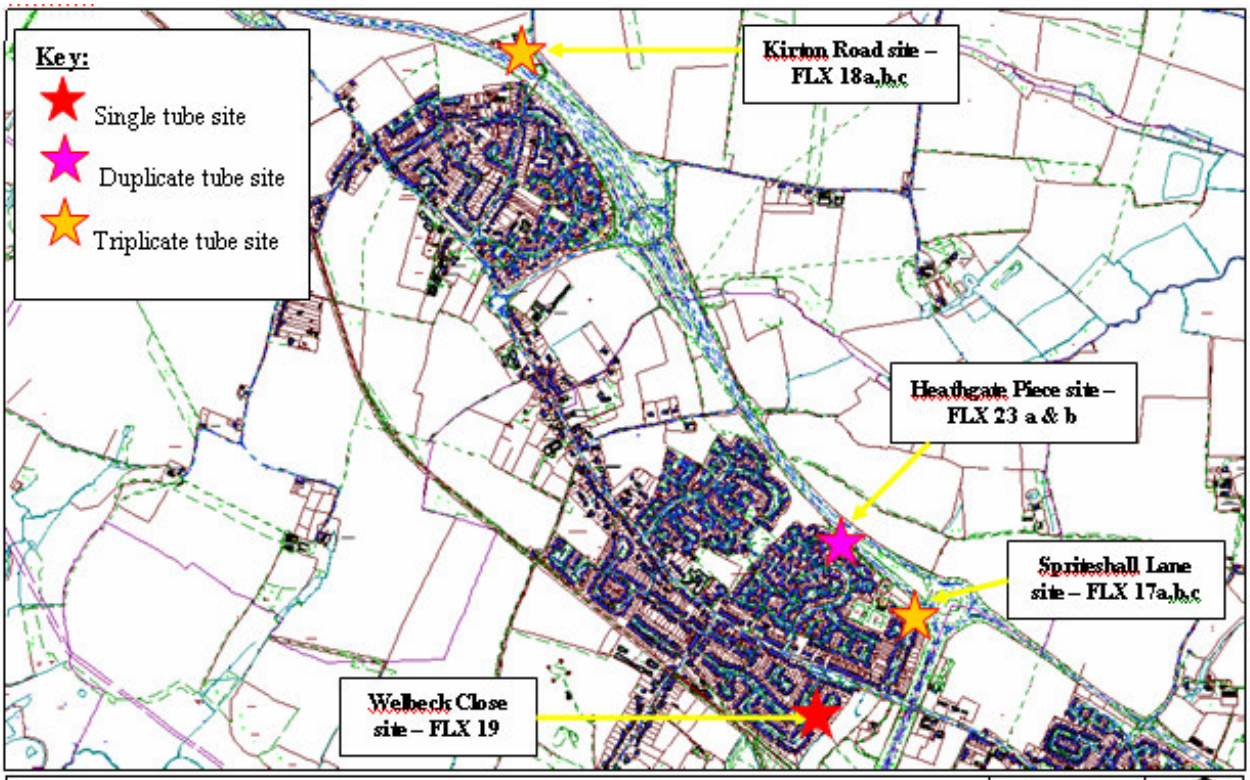

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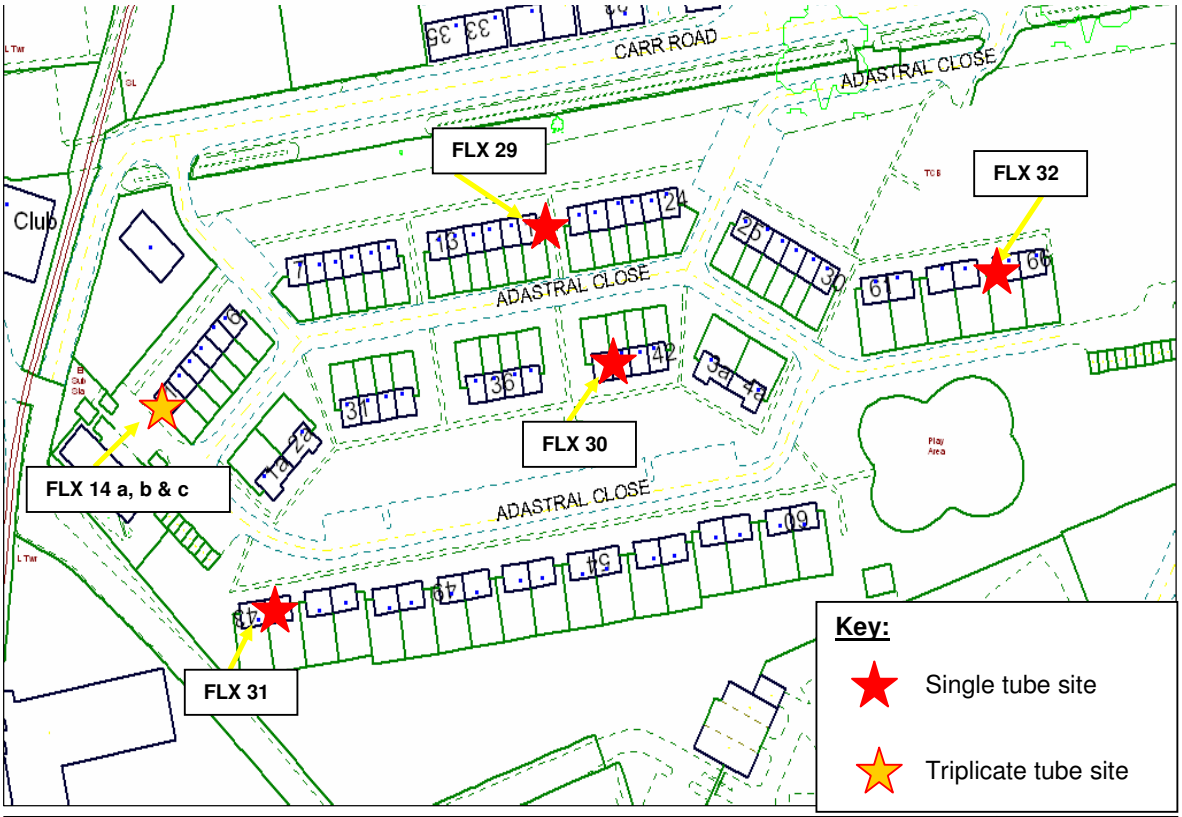

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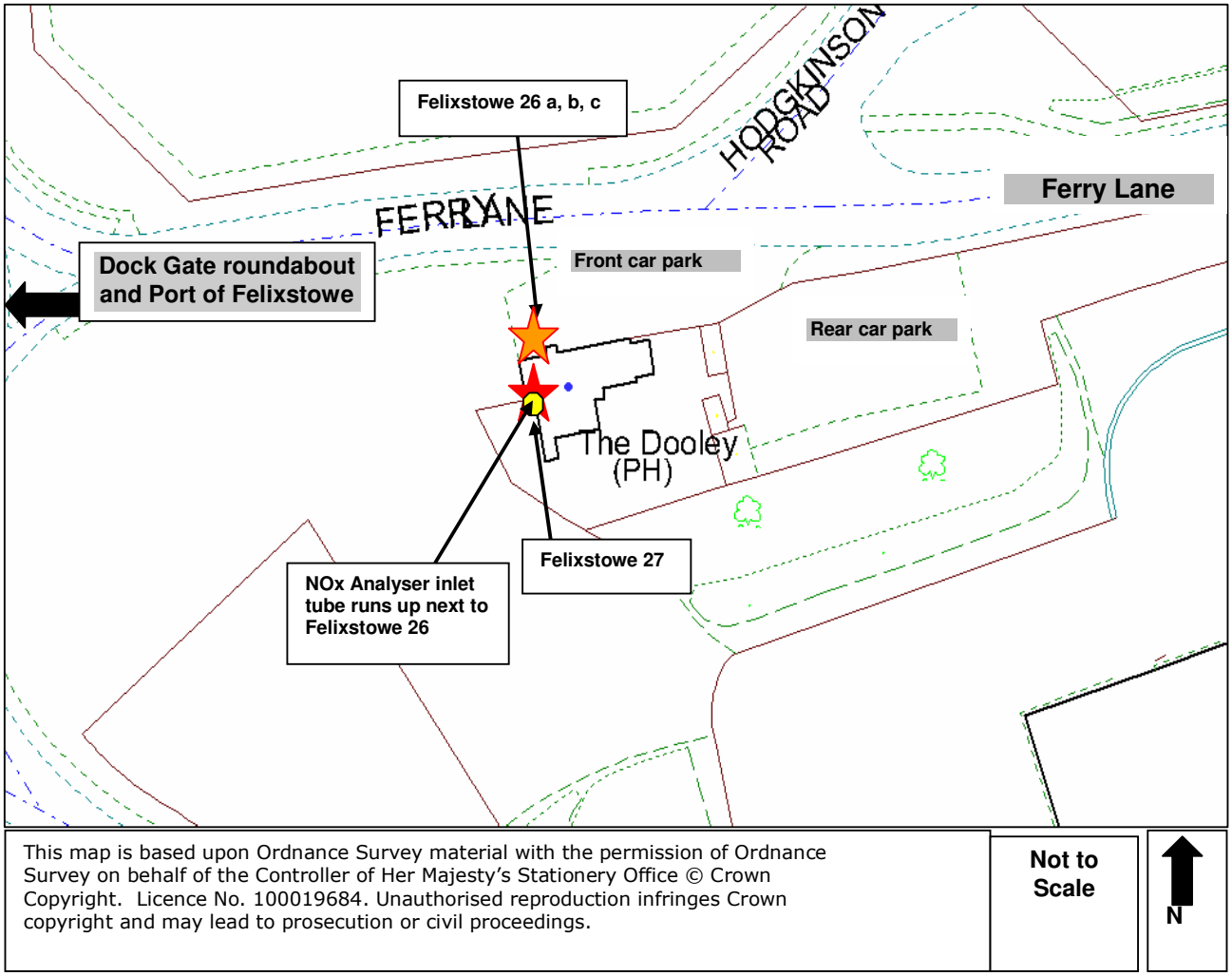
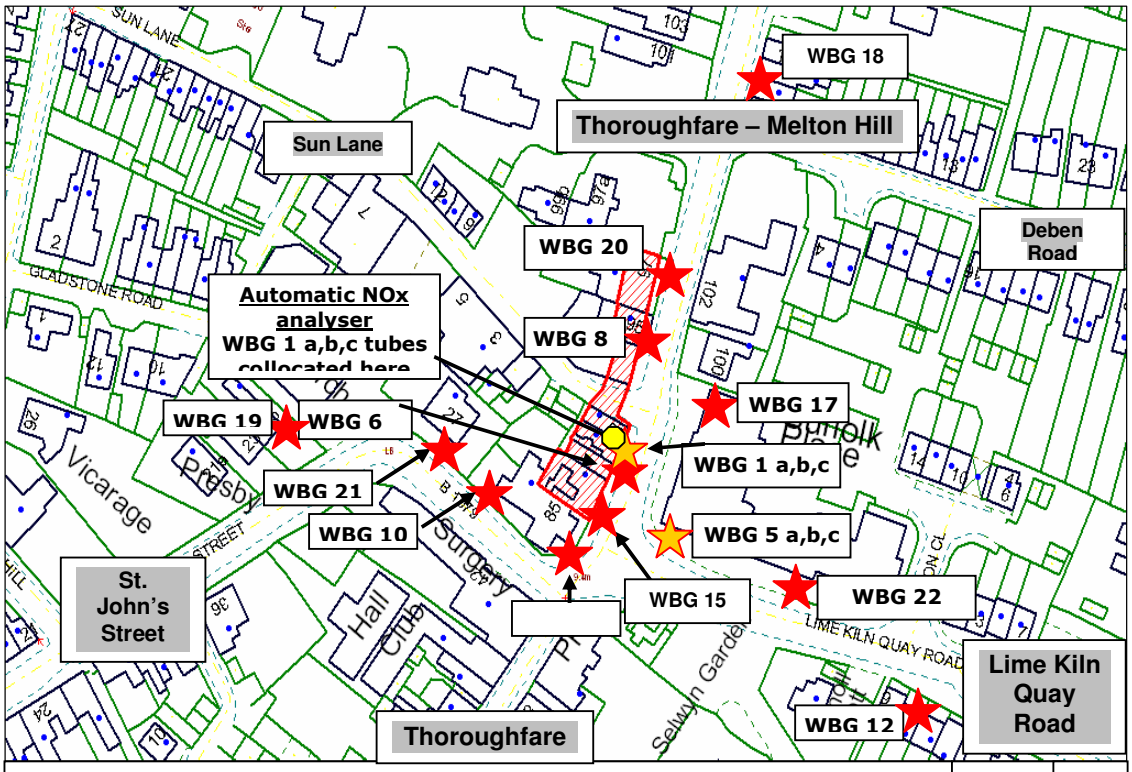
Suffolk Coastal District Council - England



NO_2 diffusion tube locations within Woodbridge



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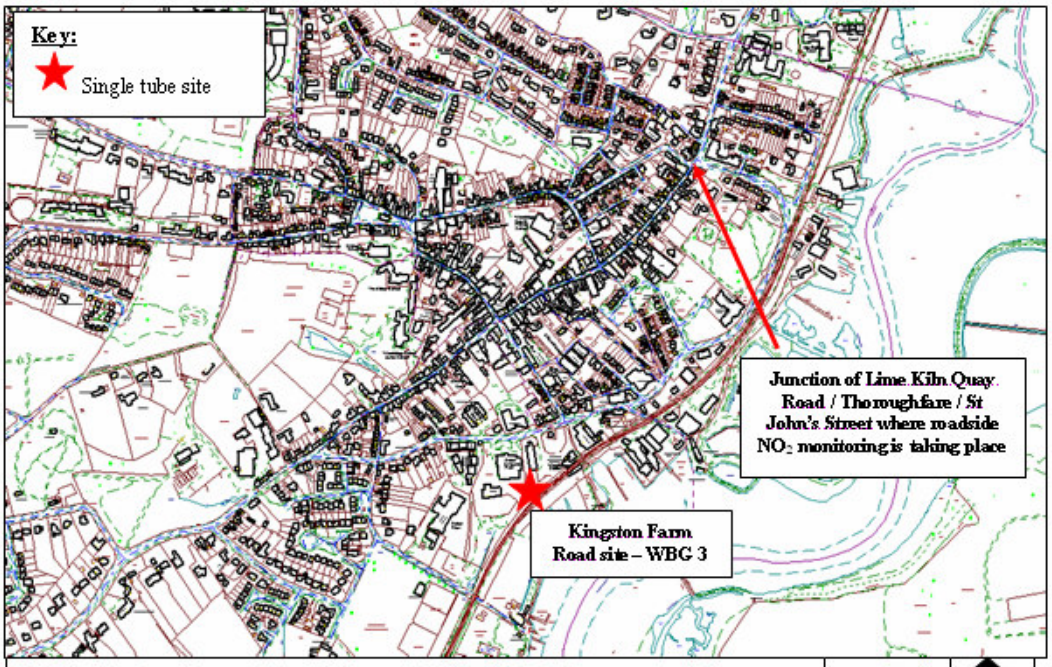
Not to scale

N

Single Diffusion Tube location

Triplicate Diffusion Tube location

Automatic NOx Analyser



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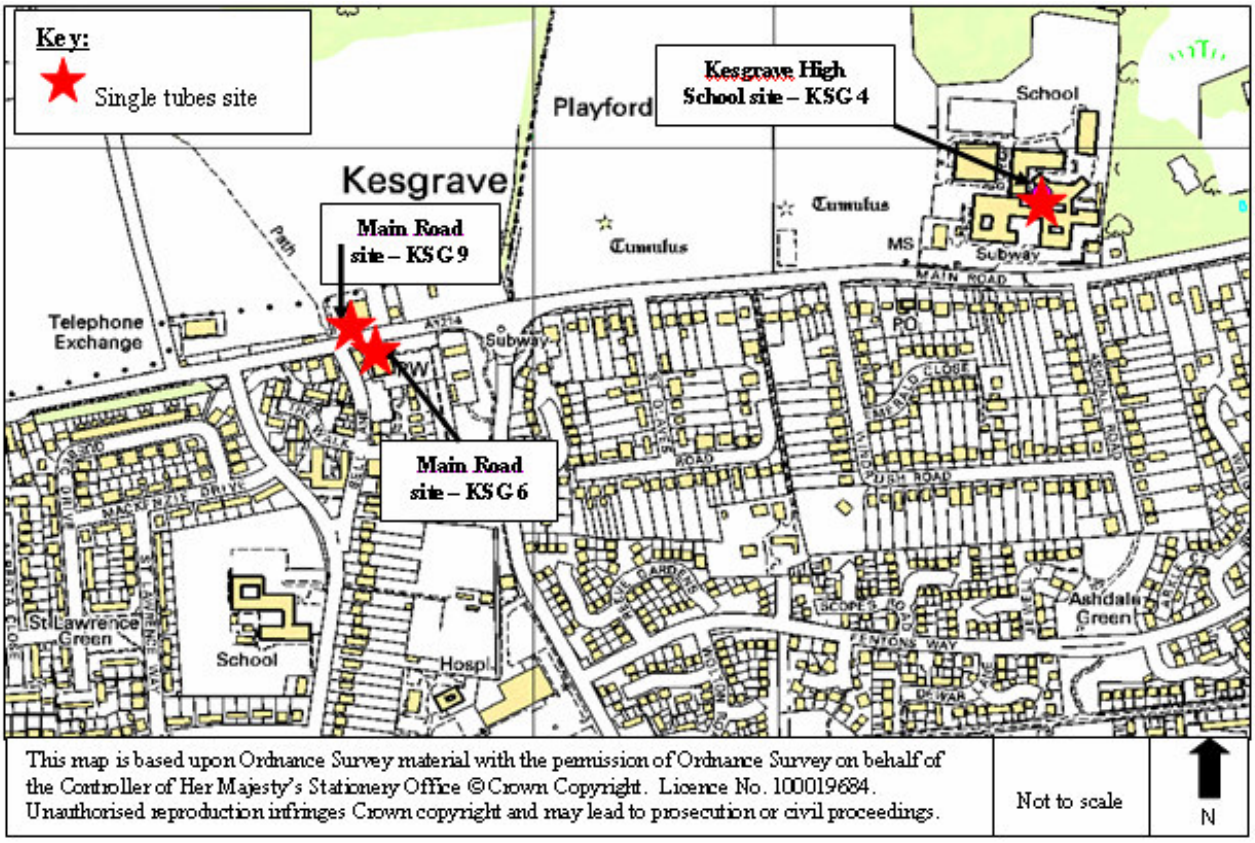
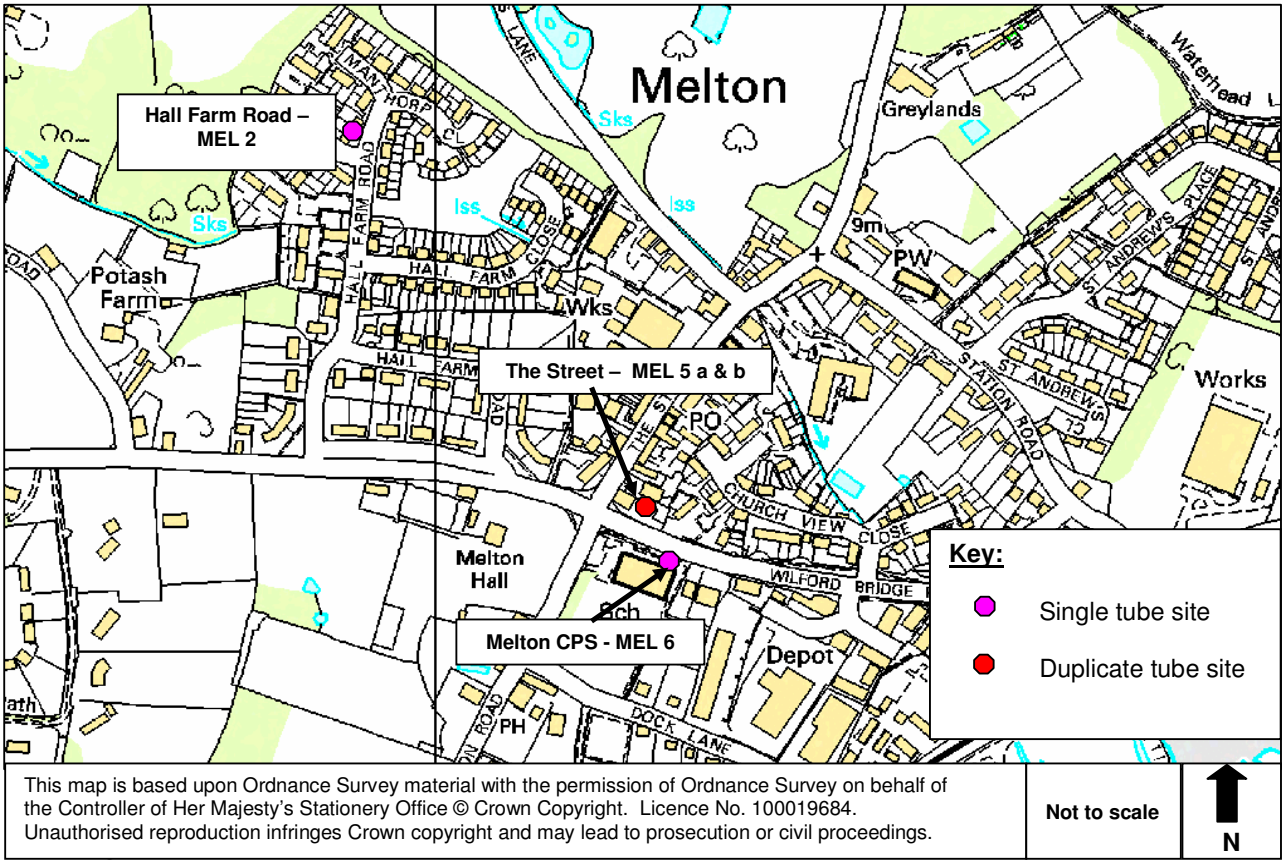
Not to scale

N

Suffolk Coastal District Council - England

NO_2 Diffusion Tube Locations in Kesgrave and Melton





Appendix E:
NOx analyser results summaries

Woodbridge

Produced by AEA on behalf of Suffolk Coastal District Council

SUFFOLK COASTAL WOODBRIDGE 2
01 January to 31 December 2008

These data have been fully ratified by AEA

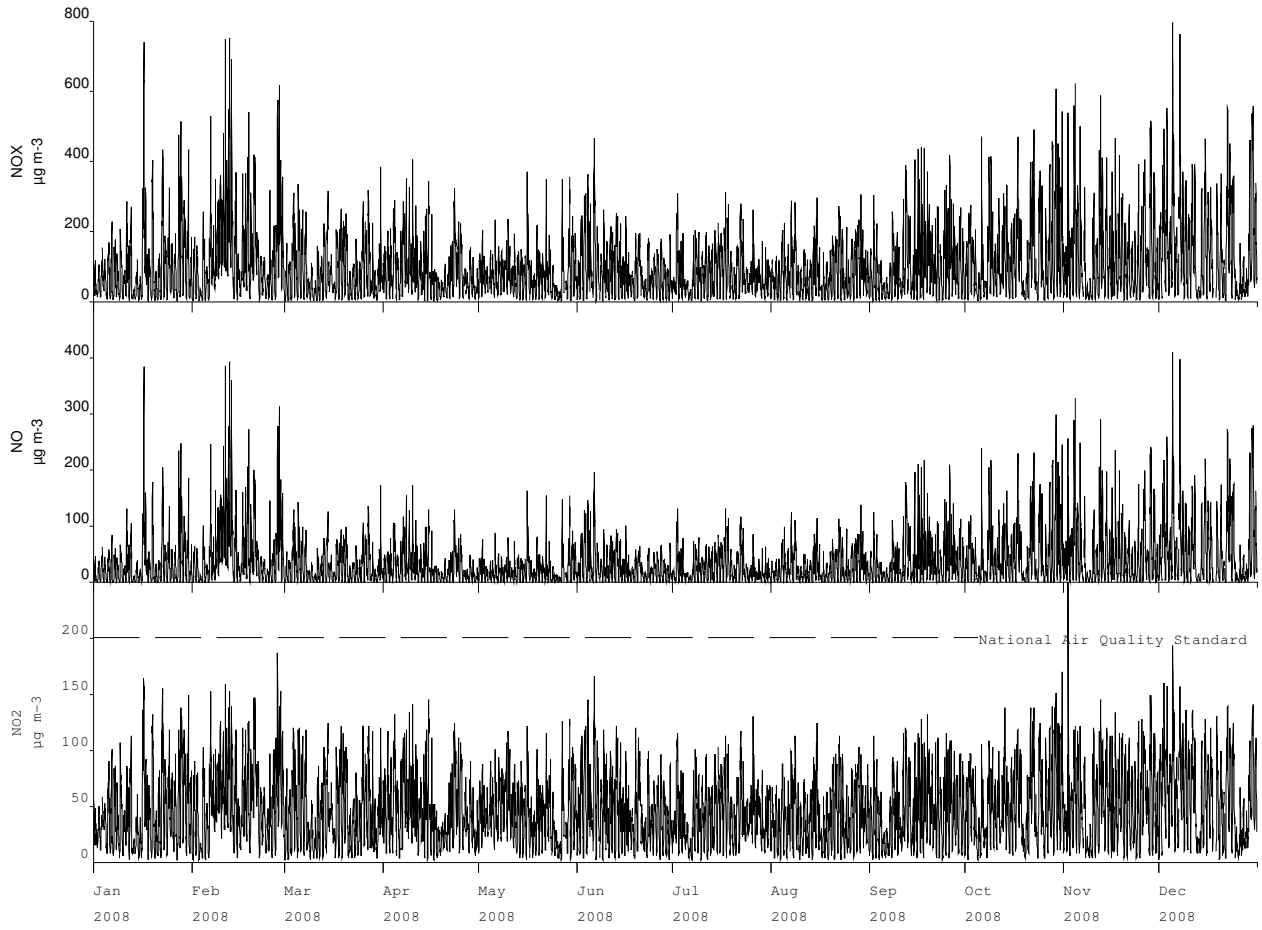
POLLUTANT	NO_X	NO	NO_2
Number Very High	-	-	0
Number High	-	-	0
Number Moderate	-	-	0
Number Low	-	-	8686
Maximum 15-minute mean	1421 µg m^{-3}	491 µg m^{-3}	695 µg m^{-3}
Maximum hourly mean	796 µg m^{-3}	409 µg m^{-3}	250 µg m^{-3}
Maximum running 8-hour mean	506 µg m^{-3}	254 µg m^{-3}	138 µg m^{-3}
Maximum running 24-hour mean	353 µg m^{-3}	174 µg m^{-3}	105 µg m^{-3}
Maximum daily mean	334 µg m^{-3}	161 µg m^{-3}	99 µg m^{-3}
Average	99 µg m^{-3}	35 µg m^{-3}	45 µg m^{-3}
Data capture	98.9 %	98.9 %	98.9 %

All mass units are at 20'C and 1013mb
NO_X mass units are NO_X as NO_2 µg m-3

Pollutant	Air Quality (England) Regulations 2000 and (Amendment) Regulations 2002	Exceedences	Days
Nitrogen Dioxide	Annual mean > 40 µg m^{-3}	1	-
Nitrogen Dioxide	Hourly mean > 200 µg m^{-3}	1	1

Produced by AEA on behalf of Suffolk Coastal District Council

Suffolk Coastal Woodbridge 2 Air Monitoring
Hourly Mean Data for 01 January to 31 December 2008



Environmental Quality
AEA
Building 551.11
Harwell
Didcot
Oxfordshire
OX11 0QJ

Felixstowe

Produced by AEA on behalf of Suffolk Coastal District Council

FELIXSTOWE DOOLEY
01 January to 31 December 2008

These data have been fully ratified by AEA

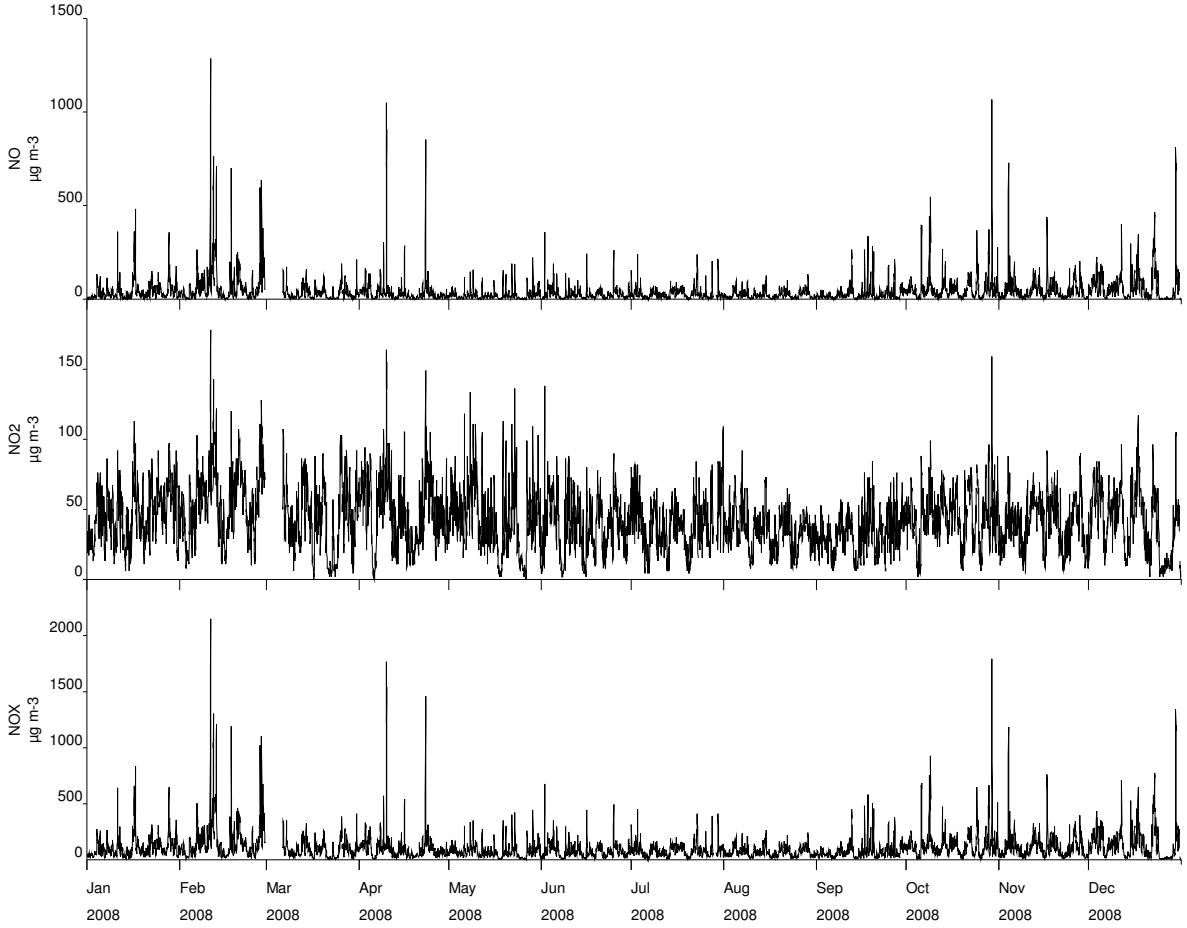
POLLUTANT	NO	NO_2	NO_X
Number Very High	-	0	-
Number High	-	0	-
Number Moderate	-	0	-
Number Low	-	8530	-
Maximum 15-minute mean	2019 µg m^{-3}	298 µg m^{-3}	3383 µg m^{-3}
Maximum hourly mean	1288 µg m^{-3}	178 µg m^{-3}	2145 µg m^{-3}
Maximum running 8-hour mean	594 µg m^{-3}	124 µg m^{-3}	1023 µg m^{-3}
Maximum running 24-hour mean	306 µg m^{-3}	92 µg m^{-3}	559 µg m^{-3}
Maximum daily mean	300 µg m^{-3}	92 µg m^{-3}	549 µg m^{-3}
Average	40 µg m^{-3}	42 µg m^{-3}	103 µg m^{-3}
Data capture	97.1 %	97.1 %	97.1 %

All mass units are at 20'C and 1013mb
NO_X mass units are NO_X as NO_2 µg m-3

Pollutant	Air Quality (England) Regulations 2000 and (Amendment) Regulations 2002	Exceedences	Days
Nitrogen Dioxide	Annual mean > 40 µg m^{-3}	1	-
Nitrogen Dioxide	Hourly mean > 200 µg m^{-3}	0	0

Produced by AEA on behalf of Suffolk Coastal District Council

Felixstowe Dooley Air Monitoring
Hourly Mean Data for 01 January to 31 December 2008



Environmental Quality
AEA
Building 551.11
Harwell
Didcot
Oxfordshire
OX11 0QJ

Appendix F: NO_2 diffusion tube results 2008

Suffolk Coastal District Council - England

Monthly and annual mean nitrogen dioxide (NO_2) concentrations recorded at sites in Felixstowe during 2008, figures in micrograms per cubic metre ($\mu g/m^3$). Annual mean concentration corrected for bias where relevant

Site	Time in months												Annual mean ($\mu g/m^3$)	Bias correction factor used	Bias corrected annual mean ($\mu g/m^3$)
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
FLX 4	36.4	42.3	20.9	28	24.8	16.2	29.3	21.8	19	39.7	36.1	44.3	**29.9**	**0.8**	**24**
FLX 12	46.9	48.8	39.0	28.0	32.6	32.6	35.5	35.8	31.4	52.6	41	55.9	**40.0**	**0.8**	**32**
FLX 14a	44.9	37.1	32.9	29.2	25.3	26.5	29.8	28.6	28.2	46.5	37.4	54.1	see FLX 14 mean	~	~
FLX 14b	41.6	43.2	34.9	32.2	26.2	26.7	27.0	30.3	30.9	63.2	44.6	49.1	see FLX 14 mean	~	~
FLX 14c	46.8	46.0	37.3	35.4	29.9	28.1	30.7	30.6	33.2	46.7	49.1	38.5	see FLX 14 mean	~	~
FLX 14 a,b,c - mean	44.4	42.1	35.0	32.3	27.1	27.1	29.2	29.8	30.8	52.1	43.7	47.2	**36.7**	**0.8**	**29**
FLX 17a	47.6	41.4	34.5	40.3	39.1	24.5	29.0	25.1	32.7	46.7	40	40.7	see FLX 17 mean	~	~
FLX 17b	47.5	45.4	33.3	39.7	38.4	26.1	28.5	28.2	25.9	47.7	39.6	41.1	see FLX 17 mean	~	~
FLX 17c	45.3	44.9	32.1	40.3	39.2	25.5	29.1	27	34.1	48.2	39	40	see FLX 17 mean	~	~
FLX 17 a,b,c - mean	46.8	43.9	33.3	40.1	38.9	25.4	28.9	26.8	30.9	47.5	39.5	40.6	**36.9**	**0.8**	**30**
FLX 18a	60.6	52.8	31.9	45	24.6	31.9	33.4	35.2	28.9	46.6	23.3	41	see FLX 18 mean	~	~
FLX 18b	60	50.7	38.1	45.8	22.3	27.7	37.0	34.3	28.5	50.5	38.8	45.6	see FLX 18 mean	~	~
FLX 18c	55.3	49.4	37.1	49.7	21.9	30.2	35.2	32.1	23.5	58	44	38.9	see FLX 18 mean	~	~
FLX 18 a,b,c - mean	58.6	51.0	35.7	46.8	22.9	29.9	35.2	33.9	27.0	51.7	35.4	41.8	**39.2**	**0.8**	**31**
FLX 19	51.9	43.7	28.4	35.4	31.5	20.2	27.7	27.3	30.4	45.6	41.4	41.1	**35.4**	**0.8**	**28**
FLX 20	45.2	43.3	40.7	33.9	23.6	25.7	32.2	31.1	25.7	50.6	32.7	39.8	**35.4**	**0.8**	**28**
FLX 21	44.5	43.6	34.3	32.1	25.7	20.4	28.6	29.1	25.6	-	40.5	47.6	**33.8**	**0.8**	**27**
FLX 22	40.1	41.3	37.0	30.5	25.1	22.2	29.6	24.5	25.4	47.7	40.9	53.8	**34.8**	**0.8**	**28**
FLX 23a	45.5	48.5	32	41.8	55.6	32.5	27.0	27	39.2	45.9	40.1	43.2	see FLX 23 mean	~	~
FLX 23b	45.6	47.4	32.8	40.3	53.8	32.4	29.0	26.0	42.9	43.4	40.8	36.3	see FLX 23 mean	~	~
FLX 23 a,b - mean	45.6	48.0	32.4	41.1	54.7	32.5	28.0	26.5	41.1	44.7	40.5	39.8	**39.5**	**0.8**	**32**
FLX 24	54.7	50.1	48.1	38	28.3	33.9	30.3	36.1	35.1	52.7	48.3	48.3	**42.0**	**0.8**	**34**
FLX 25	46.1	51.3	45.3	40.5	28.7	33.5	37.8	36.8	34.6	53.1	42.1	42.1	**41.0**	**0.8**	**33**
FLX 26a	62.7	71	62.9	49.7	55.4	52.9	53.8	48.7	49.3	63.2	63.4	60	See FLX 26 Mean	~	~
FLX 26b	64.6	68.8	64.6	44.5	45.1	47.9	48.2	53.2	50.1	58.3	63.8	40.2	See FLX 26 Mean	~	~
FLX 26c	61.7	61.5	56.3	47.9	47.2	48.4	51.1	48.7	46.0	56.8	59.4	55.2	See FLX 26 Mean	~	~
FLX 26 a,b,c - mean	63.0	67.1	61.3	47.4	49.2	49.7	51.0	50.2	48.5	59.4	62.2	51.8	**55.1**	**0.77**	**42**
FLX 27	58.9	49.8	51.1	47.2	37.6	41	35.7	43.6	41.4	61.4	58.7	28.8	**46.3**	**0.77**	**36**
FLX 28	53.5	46.3	47.4	38.2	27.2	32.4	37.3	36.3	26.5	55.3	47.3	0.9	**37.4**	**0.8**	**30**
FLX 29	46.2	43.6	40.3	33.4	32.7	25.6	30.1	26.4	27.4	46.8	44.9	49.7	**37.3**	**0.8**	**30**
FLX 30	44.4	38.5	33.0	29.6	27.1	22.1	23.7	27.4	19.4	46	40.9	40.6	**32.7**	**0.8**	**26**
FLX 31	54	45.3	38.9	38.1	30.9	29.5	35.5	32.9	31.2	51	49.8	49.5	**40.6**	**0.8**	**33**
FLX 32	41	41.7	33.9	24.5	32.7	25.4	30.2	24.4	23.3	42.7	43	45.7	**34.0**	**0.8**	**27**

Key:		
	FLX 4	Urban Background site, lampost outside 37 Lynwood Avenue, Felixstowe
	FLX 12	Roadside site, drainpipe at 119 Hamilton Road, 'Ford Bros. Bike Shop' Felixstowe
	FLX 14 a,b,c	Industrial site, drainpipe on 1 Adastral Close, Felixstowe. **(Triplicate site)**
	FLX 17 a,b,c	Roadside site, drainpipe on 38 Spriteshall Lane, Trimley St. Mary. **(Triplicate site).**
	FLX 18 a,b,c	Roadside site, lampost at 67 Kirton Road, Trimley St. Martin. **(Triplicate site).** **N.B site moved from lampost to telegraph pole from September 2008**
	FLX 19	Urban Background site, lampost at 4 Welbeck Close, Trimley St. Mary.
	FLX 20	Industrial/Roadside site, rear garden of 73 Glemsford Close, Felixstowe
	FLX 21	Urban Background site, lampost at 4 Kings Fleet Road, Felixstowe
	FLX 22	Industrial site, drainpipe on 13 Levington Road, Felixstowe
	FLX 23 a,b	Roadside site, drainpipe on 23 Heathgate Piece, Trimley St. Mary. **(Duplicate site)**
	FLX 24	Roadside site, rear garden of 22 Brandon Road, Felixstowe
	FLX 25	Roadside site, drainpipe on 46 Rendlesham Road, Felixstowe
	FLX 26 a,b,c	Industrial/Roadside site, first floor window over front car park at The Dooley Inn, Ferry Lane, Felixstowe. **(Triplicate site co-located with continuous analyser)**
	FLX 27	Industrial/Roadside site, first floor front window facing the Docks at The Dooley Inn, Ferry Lane, Felixstowe
	FLX 28	Roadside site, rear garden of 63 Blyford Way, Felixstowe
	FLX 29	Industrial Site, 18 Adastral Close, Felixstowe
	FLX 30	Industrial Site, 39 Adastral Close, Felixstowe
	FLX 31	Industrial Site, 44 Adastral Close, Felixstowe
	FLX 32	Industrial Site, 64 Adastral Close, Felixstowe

Monthly and annual mean nitrogen dioxide (NO_2) concentrations recorded at sites in Kesgrave during 2008, figures in micrograms per cubic metre ($\mu g/m^3$). Annual mean concentration corrected for bias where relevant

Site	Time in months												Annual mean ($\mu g/m^3$)	Bias correction factor used	Bias corrected annual mean ($\mu g/m^3$)
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
KSG 4	30.2	34.1	22.0	20.3	14.3	10.9	14.1	15	17.1	34.4	24.3	31	**22.3**	**0.8**	**18**
KSG 6	36.3	41.3	28.1	31.7	34.3	28.5	28.3	24.6	33.4	-	28.1	51.2	**33.3**	**0.8**	**27**
KSG 9	53.6	56.7	37.2	40.6	27.2	32.1	37.1	40.1	37.8	56.2	41.8	54.2	**42.9**	**0.8**	**34**

Key:

KSG 4 Urban Background site, Kesgrave High School, Main Road, Kesgrave

KSG 6 Roadside site, All Saints Church / The Bell Inn, Main Road, Kesgrave.

KSG 9 Roadside site, roadside lampost at 118 Main Road, Kesgrave

Suffolk Coastal District Council - England

Monthly and annual mean nitrogen dioxide (NO_2) concentrations recorded at sites in Woodbridge during 2008, figures in micrograms per cubic metre ($\mu g/m^3$). Annual mean concentration corrected for bias where relevant

Site	Time in months												Annual mean ($\mu g/m^3$)	Bias correction factor used	Bias corrected annual mean ($\mu g/m^3$)
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
WBG 1a	54.3	53.1	46.6	48.0	44.1	37.7	40.7	42.4	49.6	55.2	60	60.1	see WBG 1 mean	~	~
WBG 1b	56.6	55.1	47.5	49.8	46.0	42.9	44.0	39	47.5	67.1	62	63.9	see WBG 1 mean	~	~
WBG 1c	59.2	56.5	49	48.6	44.1	46.7	45.1	43.9	47.9	62.4	53	59.2	see WBG 1 mean	~	~
WBG 1 a,b,c - mean	56.7	54.9	47.7	48.8	44.7	42.4	43.3	41.8	48.3	61.6	58.3	61.1	**50.8**	**0.9**	**46**
WBG 3	27.8	27.8	18.5	18.3	18.9	10.9	15.6	14	17.9	31.9	26.7	33.6	**21.8**	**0.9**	**20**
WBG 5a	-	45.7	27.2	35.2	40.7	21.1	25.0	21.6	35.0	41.4	23.1	47	see WBG 5 mean	~	~
WBG 5b	-	40.7	27.9	32.2	40.9	20	23.5	20	34.4	42.2	31.9	46.3	see WBG 5 mean	~	~
WBG 5c	-	45	25.1	36.2	-	21.8	23.5	18.6	33.2	39	36.7	43	see WBG 5 mean	~	~
WBG 5 a,b,c - mean	-	43.8	26.7	34.5	40.8	21.0	24.0	20.1	34.2	40.9	30.6	45.4	**32.9**	**0.9**	**30**
WBG 6	50.4	53.4	42.9	46.7	46.4	39.1	42.4	39.4	49.5	61.8	58.9	60.8	**49.3**	**0.9**	**44**
WBG 8	54.3	53.6	48.7	48	42.7	45.8	47.3	45	46.5	62.9	55.3	60.9	**50.9**	**0.9**	**46**
WBG 10	39.8	47.9	33.3	40.6	51.8	31.7	35.4	25.6	39.3	47.2	38.2	31.1	**38.5**	**0.9**	**35**
WBG 12	42.5	41.2	31.3	32.7	21	25.3	28.5	26.5	26.4	46.8	38	44	**33.7**	**0.9**	**30**
WBG 13	39.2	45.2	39.4	40.9	46.3	35.2	34.1	25.9	40.3	48.5	48.7	52.7	**41.4**	**0.9**	**37**
WBG 15	37.1	56	41.0	47.0	44.4	34.7	41.0	35.5	45.6	62.3	57.3	18.9	**43.4**	**0.9**	**39**
WBG 17	41.3	45.8	32.2	38.5	40	27.8	32.8	29.1	29.1	45.4	35.5	43.6	**36.8**	**0.9**	**33**
WBG 18	45.7	42.1	33.8	46.3	50.6	29.1	36.9	31.8	45.9	49.9	47	55	**42.8**	**0.9**	**39**
WBG 19	28.9	35.1	24.7	-	-	-	-	-	-	-	-	-	~	~	~
WBG 20	55.4	47.7	47.2	45.8	30.3	36.2	34.5	37.4	40.6	62.3	54.4	54.6	**45.5**	**0.9**	**41**
WBG 21	32.8	32.4	22.4	21.9	21.4	16.1	19.7	15.9	21.9	34.9	31.5	32.9	**25.3**	**0.9**	**23**
WBG 22	-	-	-	23.6	31	20.3	21.1	17.8	24.9	41.1	36.5	41.7	**28.7**	**0.9**	**26**

Suffolk Coastal District Council - England

Key:		
	WBG 1a,b,c	Kerbside site, signpost outside 93 Thoroughfare, Woodbridge **(Triplicate site co-located with continuous analyser)**
	WBG 3	Urban Background site, lampost outside 8 Kingston Farm Road, Woodbridge
	WBG 5a,b,c	Roadside site, drainpipe on corner of Suffolk Place, Lime Kiln Quay Road, Woodbridge **(Triplicate site)**
	WBG 6	Roadside site, drainpipe on 87 Thoroughfare, Woodbridge
	WBG 8	Roadside site, drainpipe on 95 Thoroughfare, Woodbridge
	WBG 10	Roadside site, signpost in St. John's Street (opposite Surgery), Woodbridge
	WBG 12	Roadside site, drainpipe on 8 Lime Kiln Quay Road, Woodbridge.
	WBG 13	Roadside site, traffic lights at front of 85 Thoroughfare, Woodbridge
	WBG 15	Roadside site, Top guttering in middle of 87 Thoroughfare, Woodbridge
	WBG 17	Roadside site, drainpipe at front Northern end of Suffolk Place, Lime Kiln Quay Road, Woodbridge
	WBG 18	Roadside site, drainpipe between 106 / 108 Thoroughfare, Woodbridge
	WBG 19	Roadside site, front porch of 25 St. John's Street, Woodbridge **(site removed from April 2008)**
	WBG 20	Roadside site, drainpipe on 97 Thoroughfare, Woodbridge
	WBG 21	Roadside Site, drainpipe on the front of 27 St John Street, Woodbridge
	WBG 22	Roadside Site, window ledge balcony on Suffolk Place facing the Lime Kiln Quay Road. **New Site from April 2008**

Monthly and annual mean nitrogen dioxide (NO_2) concentrations recorded at sites in Melton during 2008 figures in micrograms per cubic metre ($\mu g/m^3$). Annual mean concentration corrected for bias where relevant.

Site	Time in months												Annual mean ($\mu g/m^3$)	Bias correction factor used	Bias corrected annual mean ($\mu g/m^3$)
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
MEL 2	26.1	25.1	16.3	18	14.8	10.2	15.1	11.3	14.4	30.6	19.9	19.7	**18.5**	**0.8**	**15**
MEL 5a	47.3	44.2	34.9	18.0	28.5	27.5	29	24.9	32.4	0.5	42.4	44.4	see MEL 5 mean	~	~
MEL 5b	45.0	45.6	35.8	27.7	28.1	20.2	28	28.5	31.5	48.1	-	48.8	see MEL 5 mean	~	~
MEL 5a,b, - mean	46.2	44.9	35.4	22.9	28.3	23.9	28.5	26.7	32.0	49.3	42.4	46.6	**35.6**	**0.8**	**28**
MEL 6	26.8	26.5	22.7	20	23.6	10.8	15.7	12.3	21.3	30	28.6	36.5	**22.9**	**0.8**	**18**

Key:

MEL 2 Urban Background site, drainpipe on 106 Hall Farm Road, Melton

MEL 5a,b, Roadside site, 6 The Street, Melton. **(Duplicate site)**

MEL 6 Roadside site, Melton CPS (drainpipe), Melton Road, Melton

Appendix G: Traffic count information

Road	Traffic count site description	SCC site identification details	Grid reference Eastings	Grid reference Northings	7-day AADTs – all motorised vehicles. Details for 2005 (unless otherwise stated)	7-day AADTs – all motorised vehicles. Details for 2008 (unless otherwise stated)
A14	TRIMLEY HEATH (HIGHWAYS AGENCY SITE)	M081	628800	237300	**33,955**	**-**
A14	IPSWICH ORWELL BRIDGE (HIGHWAYS AGENCY SITE)	M094	618300	241100	**52,765**	**-**
A12	WOODBRIDGE BYPASS SOUTH OF B1079	M002	626000	249200	**30,328**	**30,998**
A12	BRIGHTWELL	M026	624830	244485	**-**	**36,696**
A12	SOUTH OF YOXFORD	M042	639300	268120	**11,183**	**11,061**
A12	SAXMUNDHAM BYPASS	M095	637850	265320	**9,641**	**10,001**
A12	FARNHAM	Y141	636060	260110	**16,080**	**16,111**
A12	BENHALL, SOUTH OF B1121	Y142	637765	261010	**15,046 (2004)**	**13,762**
A12	BLYTHBURGH, SOUTH OF A145	Y111	645200	275700	**12659 (2002)**	**-**
A144	SOUTH OF BRAMFIELD	Y005	640250	272488	**3484 (2002)**	**3244**
A154	FELIXSTOWE	M020	629577	235915	**16,143**	**15,531**
A1094	NORTH WEST OF ALDEBURGH	M027	644116	258307	**4,649 (2003)**	**4098**
A1094	SNAPE WEST OF B1069	Y114	639398	259344	**6,724 (2004)**	**-**
A1094	SNAPE EAST OF B1069	Y115	639747	259329	**7615**	**8512.8**
A1120	SAXTEAD SOUTH WEST OF U2119	P005	624650	263930	**3,884**	**4194**
A1120	WEST OF PEASENHALL	Y013	634920	269130	**2,876 (2004)**	**1916**
A1120	SAXTEAD BOTTOM	Y118	626380	265720	**2,110 (2004)**	**-**
A1152	WEST OF MELTON	M003	627350	250430	**12,831**	**13,475**
A1152	MELTON WILFORD BRIDGE	M053	629019	250267	**14,310**	**14,822**
A1152	BROMESWELL EAST OF B1084	Y120	629700	250140	**9,898 (2003)**	**8908**
A1152	BROMESWELL NORTH OF B1084	Y121	630644	250306	**5,938 (2004)**	**-**
A1156	WARREN HEATH – IPSWICH	P004	619758	242493	**25,447**	**23,440**
A1214	MARTLESHAM WEST OF A12	M004	623764	246132	**20,269**	**20,659**
B1069	TUNSTALL EAST OF C335	M074	635950	235082	**2,725 (2003)**	**3464**
B1069	NORTH EAST OF TUNSTALL	Y017	636630	255590	**2,682 (2003)**	**2681 (2006)**
B1069	KNODISHALL COMMON	Y018	642373	259901	**5,175 (2004)**	**4492**
B1069	SOUTH OF TUNSTALL	Y119	635775	254810	**4,149 (2004)**	**-**
B1069	GOLDFAIR GREEN	Y122	643781	261167	**4289 (2004)**	**-**
B1077	SWILLAND NORTH OF C366	M055	618355	252349	**2,213**	**2078**
B1078	OTLEY EAST OF C306	M036	619366	254036	**4,612.3**	**4769**
B1078	CLOPTON EAST OF B1079	Y022	621880	254430	**2,569 (2004)**	**2665 (2006)**
B1078	WEST OF TUNSTALL	Y125	634608	255578	**963 (2003)**	**-**
B1078	EAST OF TUNSTALL	Y126	636530	255050	**1,257 (2004)**	**1259 (2004)**
B1079	GRUNDISBURGH SOUTH OF B1078	Y024	620448	254746	**2,568 (2004)**	**2846 (2006)**
B1079	SUTTON WALKS SOUTH OF C340	Y025	621500	253480	**3411 (2004)**	**-**
B1079	WOODBRIDGE EAST OF A12	Y127	626110	249340	**3556 (2002)**	**5356**

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Road	Traffic count site description	SCC site identification details	Grid reference Eastings	Grid reference Northings	7-day AADTs – all motorised vehicles. Details for 2005 (unless otherwise stated)	7-day AADTs – all motorised vehicles. Details for 2008 (unless otherwise stated)
B1083	BROMESWELL NORTH OF C340	Y128	629690	249150	**5,563 (2002)**	**6356**
B1084	BUTLEY, SPRATT STREET	Y027	633109	250599	**3,624.5 (2004)**	**-**
B1084	ORFORD SOUTH OF U3829	Y028	641790	250661	**2,660 (2003)**	**2295**
B1116	DENNINGTON NORTH OF B1118	Y035	628330	268630	**1,608 (2000)**	**1645 (2006)**
B1116	FRAMLINGHAM COLLEGE ROAD	Y204	627840	264300	**2,610 (2003)**	**2238 (2006)**
B1116	NORTH OF PARHAM	M040	629974	260965	**5,153**	**4916**
B1117	HEVENINGHAM SOUTH OF C220	Y130	634633	273768	**892 (2002)**	**867**
B1118	DENNINGTON WEST OF B1116	Y036	628020	268320	**638 (2004)**	**593 (2007)**
B1119	WEST OF SAXMUNDHAM BYPASS	M058	637305	263626	**1,760**	**1870**
B1119	EAST OF SAXMUNDHAM	Y038	641077	262535	**3,646**	**3783.3**
B1119	SAXTEAD GREEN	Y132	626110	264430	**3,755 (2004)**	**3838 (2006)**
B1120	FRAMLINGHAM BADINGHAM ROAD	Y040	629300	264220	**974 (2004)**	**1158 (2007)**
B1121	STERNFIELD EAST OF C247	Y041	639415	261438	**1,043 (2003)**	**1021**
B1121	NORTH OF SAXMUNDHAM	Y172	638333	265570	**2,059 (2003)**	**1578**
B1121	SOUTH OF SAXMUNDHAM	Y173	638233	261642	**3,400 (2003)**	**2464**
B1121	THEBERTON	M078	643910	265689	**4,498 (2002)**	**9080**
B1122	EAST OF YOXFORD	Y042	640488	268444	**3,204 (2004)**	**2689**
B1122	LEISTON SOUTH OF B1353	Y043	644640	260780	**3,379 (2004)**	**3319**
B1122	SOUTH OF LEISTON	Y133	644525	261179	**5048 (2002)**	**-**
B1122	NORTH OF LEISTON SOUTH OF U2822	Y143	644370	263130	**4,363 (2004)**	**-**
B1123	LINSTEAD	Y044	635604	277675	**1,446 (2004)**	**1464**
B1125	SOUTH OF WESTLETON	Y045	643786	267944	**2,444 (2001)**	**2204**
B1353	WEST OF THORPENESS	Y049	645507	260685	**1,992 (2004)**	**2722 (2006)**
B1353	ALDRINGHAM	Y136	644289	261019	**2143 (2002)**	**-**
B1387	BLYTHBURGH EAST OF A12	Y137	645223	274239	**1,030 (2004)**	**2733.5 (2006)**
B1438	SOUTH OF WOODBRIDGE	M059	625641	247964	**11,152**	**11.331**
B1438	QUAYSIDE WOODBRIDGE	M070	627673	248955	**9,610**	**9482**
B1438	SOUTH OF WICKHAM MARKET	M088	629929	254074	**4,004**	**4122**
B1438	SOUTH OF UFFORD	Y138	629050	252100	**5,265 (2004)**	**3844**
C228	LEISTON KING GEORGES AVENUE	Y174	645261	262502	**4025 (2002)**	**-**
C322	FOXHALL ROAD IPSWICH	M089	621524	244033	**10,358**	**10,812**
C340	SUTTON WALKS	Y139	630050	248910	**3812 (2004)**	**-**
C372	MARTLESHAM FELIXSTOWE ROAD	Y182	624940	246500	**5823 (2004)**	**4988**
C376	MARTLESHAM EAST OF BLACKTILES LANE	Y176	624620	246442	**2,770.7**	**2879**
U2822	LEISTON LOVERS LANE	Y152	644800	263740	**1642 (2002)**	**-**
U3215	MARTLESHAM EAGLE WAY NORTH	Y170	624444	245806	**4,474 (2002)**	**-**
U3215	MARTLESHAM EAGLE WAY SOUTH	Y171	624660	245218	**3833 (2002)**	**-**
A14	TRIMLEY HEATH	M081	628050	237350	**33,955**	**34,026**
B1079	SOUTH OF OTLEY	Y024	620448	254746	**2791 (2004)**	**2719(2007)**
C0969	OULTON SOUTH OF B1074	Y116	652520	294330	**10736 (2000)**	**-**
A14	TRIMLEY HEATH E/B	9927	628800	237300	**16686**	**16793**
A14	TRIMLEY HEATH W/B	9928	628800	237300	**17269**	**17232**

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Traffic count information for roads within Suffolk Coastal, provided by Suffolk County Council (SCC) Environment and Transport Department.

Appendix H: Environmental Permitting Regulations 2007 – process list

List of processes permitted under the Environmental Permitting Regulations 2007 within the Suffolk Coastal district, and indication of whether they are classed as a potentially significant emitter of any pollutant (as specified in LAQM.TG (03)).

Name and address of authorised process	Authority issuing authorisation (Public Register file reference – where applicable)	Grid reference for process	Installation Activity Section number and Process Guidance (PG) note under which process is authorised	Process description	Pollutants (if any) for which this process is a potentially significant emitter, as specified in LAQM.TG(03) **
Linstead Garage Linstead Parva	Suffolk Coastal District Council (EPA 01)	63339 27782	Combustion Activity Section 1.1 PG 1/1 (1995)	Waste Oil Burner; less than 0.4MW	~
Samkin of Saxmundham Ltd Chantry Road, Saxmundham	Suffolk Coastal District Council (EPA 02)	63846 26301	Combustion Activity Section 1.1	Waste Oil Burner; less than 0.4MW	~
Standard Bait Co. Ltd Oak Hill, Bramfield	Suffolk Coastal District Council (EPA 03)	63955 27551	Treatment of Animal and Vegetable Matter Section 6.8	Maggot Breeding	~
Bridge Garage Charsfield	Suffolk Coastal District Council (EPA 05)	62642 25609	Combustion Activity Section 1.1	Waste Oil Burner; less than 0.4MW	~
Cemex Materials UK (Eastern) Sinks Pit, Kesgrave	Suffolk Coastal District Council (EPA 07)	62288 24636	Production of Cement and Lime Section 3.1	The blending of cement in bulk	~
Cemex Materials UK (Eastern) Theberton Airfield, Leiston	Suffolk Coastal District Council (EPA 08)	64134 26438	Production of Cement and Lime Section 3.1	The blending of cement in bulk	~
Cemex Trading as Ipswich Coated Stone Sinks Pit, Kesgrave	Suffolk Coastal District Council (EPA 11)	62276 24639	Other Mineral Activities Section 3.5	Coating of road stone with tar or bitumen	**PM_{10}**
The Paddocks Hacheston	Suffolk Coastal District Council (EPA 13)	63075 25945	Combustion Activity Section 1.1	Waste Oil Burner; less than 0.4MW	~

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Name and address of authorised process	Authority issuing authorisation (Public Register file reference – where applicable)	Grid reference for process	Installation Activity Section number and Process Guidance (PG) note under which process is authorised	Process description	Pollutants (if any) for which this process is a potentially significant emitter, as specified in LAQM.TG(03) **
RE & FM Desborough Church Farm, Wenhaston	Suffolk Coastal District Council (EPA 33)	64208 27526	Other Mineral Activities Section 3.5	Crushing, grinding or size reduction of bricks, tiles or concrete (mobile)	~
The Garage Church Road, Dallinghoo	Suffolk Coastal District Council (EPA 36)	62642 25495	Combustion Activity Section 1.1	Waste Oil Burner; less than 0.4MW	~
Shell Garage A12 Northbound (Woodbridge), 715 Grove Road, Woodbridge	Suffolk Coastal District Council (EPA 38)	62598 24951	Gasification, Liquefaction and Refining Activities Section 1.2	Unloading of petrol into storage tanks at a Service Station	~
Shell Garage A12 Southbound (Woodbridge) 805 Grove Road, Woodbridge	Suffolk Coastal District Council (EPA 39)	62605 24950	Gasification, Liquefaction and Refining Activities Section 1.2	Unloading of petrol into storage tanks at a Service Station	~
Haynings Service Station Saxmundham Road, Framlingham	Suffolk Coastal District Council (EPA 40)	62885 26349	Gasification, Liquefaction and Refining Activities Section 1.2	Unloading of petrol into storage tanks at a Service Station	~
CDC Demolition Ltd Chapel Works, Waldringfield	Suffolk Coastal District Council (EPA 41)	62741 24380	Other Mineral Activities Section 3.5	Crushing, grinding or size reduction of bricks, tiles or concrete (mobile)	~
WM Morrisons Plc Grange Farm Avenue, Cavendish Park Estate, Felixstowe	Suffolk Coastal District Council (EPA 42)	62863 23477	Gasification, Liquefaction and Refining Activities Section 1.2	Unloading of petrol into storage tanks at a Service Station	~
Solar Garage High Road West, Felixstowe	Suffolk Coastal District Council (EPA 44)	63034 23520	Gasification, Liquefaction and Refining Activities Section 1.2	Unloading of petrol into storage tanks at a Service Station	~
Sainsbury's Supermarkets Ltd Felixstowe Road, Purdis Farm	Suffolk Coastal District Council (EPA 45)	62015 24235	Gasification, Liquefaction and Refining Activities Section 1.2	Unloading of petrol into storage tanks at a Service Station	~
Martlesham Heath Services Service Area, Anson Road, Martlesham Heath	Suffolk Coastal District Council (EPA 47)	62466 24586	Gasification, Liquefaction and Refining Activities Section 1.2	Unloading of petrol into storage tanks at a Service Station	~
Motor Fuel Company Felixstowe Dock Service Area Anzani Avenue, Felixstowe	Suffolk Coastal District Council (EPA 49)	62798 23451	Gasification, Liquefaction and Refining Activities Section 1.2	Unloading of petrol into storage tanks at a Service Station	~

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Name and address of authorised process	Authority issuing authorisation (Public Register file reference – where applicable)	Grid reference for process	Installation Activity Section number and Process Guidance (PG) note under which process is authorised	Process description	Pollutants (if any) for which this process is a potentially significant emitter, as specified in LAQM.TG(03) **
Tesco Stores Ltd Anson Road, Martlesham Heath	Suffolk Coastal District Council (EPA 50)	62473 24592	Gasification, Liquefaction and Refining Activities Section 1.2	Unloading of petrol into storage tanks at a Service Station	~
Stratford Service Station A12 Main Road, Stratford St Andrew	Suffolk Coastal District Council (EPA 52)	63578 26007	Gasification, Liquefaction and Refining Activities Section 1.2	Unloading of petrol into storage tanks at a Service Station	~
L. B. Shotter & Sons Waterloo Avenue, Leiston	Suffolk Coastal District Council (EPA 55)	64377 26260	Gasification, Liquefaction and Refining Activities Section 1.2	Unloading of petrol into storage tanks at a Service Station	~
John Grose Melton Road, Melton	Suffolk Coastal District Council (EPA 56)	62785 24987	Gasification, Liquefaction and Refining Activities Section 1.2	Unloading of petrol into storage tanks at a Service Station	~
A. G. Potter Ltd. Station Road, Framlingham	Suffolk Coastal District Council (EPA 58)	62852 26285	Gasification, Liquefaction and Refining Activities Section 1.2	Unloading of petrol into storage tanks at a Service Station	~
Mr. M. Ladd, Vehicle Surgeon Grundisburgh Road, Hasketon	Suffolk Coastal District Council (EPA 59)	62420 25002	Combustion Activity Section 1.1	Waste Oil Burner; less than 0.4MW	~
Smith & Wesby (Sax) Limited Service Station, Main Road, A12, Darsham	Suffolk Coastal District Council (EPA 62)	64061 26980	Gasification, Liquefaction and Refining Activities Section 1.2	Unloading of petrol into storage tanks at a Service Station	~
Brett Concrete Limited Waldringfield Quarry, Martlesham Heath	Suffolk Coastal District Council (PPC 01)	62568 24485	Production of Cement and Lime Section 3.1	The blending of cement in bulk	~
VAS Auto services Ltd 3/4 Quayside, Woodbridge IP12 1BU	Suffolk Coastal District Council (PPC 02)	62759 24892	Combustion Activity Section 1.1	Waste Oil Burner; less than 0.4MW	~
Fleet Vehicle Garage H.M.Prison & Y.O.I., Hollesley Bay WOODBRIDGE	Suffolk Coastal District Council (PPC 03)	63677 24498	Combustion Activity Section 1.1	Waste Oil Burner; less than 0.4MW	~
Truckeast Limited 6 Hodgkinson Road, Felixstowe IP11 3QT	Suffolk Coastal District Council (PPC 04)	62810 23446	Combustion Activity Section 1.1	Waste Oil Burner; less than 0.4MW	~

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Name and address of authorised process	Authority issuing authorisation (Public Register file reference – where applicable)	Grid reference for process	Installation Activity Section number and Process Guidance (PG) note under which process is authorised	Process description	Pollutants (if any) for which this process is a potentially significant emitter, as specified in LAQM.TG(03) **
Nationwide Crash Repair Centres Ltd. 29 Gloster Road, Martlesham Heath	Suffolk Coastal District Council (PPC 05)	62481 24562	Coating Activity Section 6.4	Re-spraying of Road Vehicles	~
Ringway Infrastructure Services Foxhall Four Quarry, Foxhall Road Brightwell	Suffolk Coastal District Council (PPC 06)	62446 24375	Other Mineral Activities Section 3.5 PG 3/15a (2004)	Coating of road stone with tar or bitumen	**PM_{10}**
L F Geater & Sons Ltd West End Nurseries, Westward Ho, Leiston	Suffolk Coastal District Council (PPC 07)	64380 26321	Combustion Activity SED Directive PG 1.12 (2004)	Straw Burning between 0.4 and 3 MW	~
Hazlewood Hand Laundry Aldeburgh Road, Aldringham, Leiston	Suffolk Coastal District Council (PPC 08)	64471 26033	Solvent Activity SED Directive PG 6/46 (2004)	Dry Cleaning	~
Johnsons The Cleaners Ltd 67 Hamilton Road, Felixstowe	Suffolk Coastal District Council (PPC 09)	63032 23467	Solvent Activity SED Directive PG 6/46 (2004)	Dry Cleaning	~
West End Dry Cleaners Unit 12, Undercliff Road West, Felixstowe	Suffolk Coastal District Council (PPC 11)	62969 23411	Solvent Activity SED Directive PG 6/46 (2004)	Dry Cleaning	~
Kesgrave Dry Cleaners Unit 3 Tesco Store, Ropes Drive, Kesgrave, Ipswich	Suffolk Coastal District Council (PPC 12)	62196 24538	Solvent Activity SED Directive PG 6/46 (2004)	Dry Cleaning	~
Castle Cleaners 10A Church Street, Framlingham	Suffolk Coastal District Council (PPC 13)	62860 26353	Solvent Activity SED Directive PG 6/46 (2004)	Dry Cleaning	~
R J Welham Plant Ltd Clappits Pit, Woodbridge Road, Newbourne	Suffolk Coastal District Council (PPC 14)	62741 24381	Other Mineral Activities PG 3/16 (1996)	Crushing, grinding or size reduction of bricks, tiles or concrete (mobile)	~
V W Anticks 2-4 The Forge, Bredfield	Suffolk Coastal District Council (PPC 15)	62661 25218	Combustion Activity Section 1.1 PG 1/1 (1995)	Waste Oil Burner; less than 0.4MW	~
William C Reade of Aldeburgh Ltd. Aldeburgh Brickworks, Saxmundham Road, Aldeburgh	Suffolk Coastal District Council (IPPC 01)	64510 25705	Ceramic Production Section 3.6 A2 SG 7 (2004)	Manufacturing bricks etc. by firing in kilns	~

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Name and address of authorised process	Authority issuing authorisation (Public Register file reference – where applicable)	Grid reference for process	Installation Activity Section number and Process Guidance (PG) note under which process is authorised	Process description	Pollutants (if any) for which this process is a potentially significant emitter, as specified in LAQM.TG(03) **
British Energy Generation Ltd Sizewell B Power Station, Leiston	Environment Agency (EPA 30)	64736 26397	Disposal of non-hazardous waste by Incineration Section 5.1	Part A1activity (Essential Supplies Diesel Generators on site)	**CO, benzene, 1,3-butadiene, lead, NOx, SO_2, PM_{10}**
British Energy Generation Ltd Sizewell B Power Station, Leiston	Environment Agency (EPA 30)	64736 26397	Combustion Activity Section 1.1	Part A1activity (Auxiliary boilers on site)	**SO_2** **PM_{10}**
British Energy Generation Ltd Sizewell B Power Station, Leiston	Environment Agency (EPA 22)	64736 26397	Disposal of non-hazardous waste by Incineration Section 5.1	Part A1activity (Incinerator on site)	~
Viridor Waste Management Foxhall Landfill Site, Foxhall Road, Brightwell	Environment Agency (IPPC 03)	62399 24390	Disposal of Waste by Landfill Section 5.2	Part A1 activity	~
Brett Aggregates Ltd Waldringfield Quarry, Martlesham Heath	Environment Agency (IPPC 04)	62619 24475	Disposal of Waste by Landfill Section 5.2	Part A1 activity	~
Novera Energy Foxhall Generation Plant, Foxhall Landfill Site, Foxhall Road, Brightwell	Environment Agency (IPPC 05)	62380 24400	Combustion Activity Section 1.1 A (1) (b) (iii)	Part A1 activity	**CO, NOx, PM_{10}, SO_2, lead, benzene & 1,3-butadiene**
Sewell Hewitt Farms Ltd Hill Farm, Chillesford	Environment Agency (IPPC 06)	63951 25230	Intensive Farming Activity Section 6.9 A(1) (a) (i)	Part A1 activity	~
Wenhaston Farm The Broiler Site, Bartholomews Lane, Blackheath, Wenhaston	Environment Agency (IPPC 07)	64146 27504	Intensive Farming Activity Section 6.9 A(1) (a) (i)	Part A1 activity	**PM_{10}**
Countess Wells Breeding Limited Pig Breeding Unit, New Road, Framlingham	Environment Agency (IPPC 08)	66286 22649	Intensive Farming Activity Section 6.9 A(1) (a) (i)	Part A1 activity	~
Crown Chicken Ltd Heveningham Poultry Site, Irongate Farm, Heveningham	Environment Agency (IPPC 09)	63333 27163	Intensive Farming Activity Section 6.9 A(1) (a) (i)	Part A1 activity	**PM_{10}**

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Name and address of authorised process	Authority issuing authorisation (Public Register file reference – where applicable)	Grid reference for process	Installation Activity Section number and Process Guidance (PG) note under which process is authorised	Process description	Pollutants (if any) for which this process is a potentially significant emitter, as specified in LAQM.TG(03) **
Red House Farm Red House Road Badingham	Environment Agency (IPPC 10)	63194 26923	Intensive Farming Activity Section 6.9 A(1) (a) (i)	Part A1 activity	**PM_{10}**
Great Pinners Farm Clopton Road, Tuddenham St Martin	Environment Agency (IPPC 11)	66196 22499	Intensive Farming Activity Section 6.9 A(1) (a) (i)	Part A1 activity	**PM_{10}**
Grampian Country Chickens (Rearing) Limited, Otley Poultry Farm, Hall Lane, Otley	Environment Agency (IPPC 12)	62090 25650	Intensive Farming Activity Section 6.9 A(1) (a) (i)	Part A1 activity	**PM_{10}**
Grampian Country Chickens (Rearing) Limited, Lampard Brook, Framlingham	Environment Agency (IPPC 13)	62740 26200	Intensive Farming Activity Section 6.9 A(1) (a) (i)	Part A1 activity	**PM_{10}**
Grampian Country Chickens (Rearing) Limited, Earl Soham, Poplar Cottage, Bedfield Road, Earl Soham	Environment Agency (IPPC 14)	62438 26470	Intensive Farming Activity Section 6.9 A(1) (a) (i)	Part A1 activity	**PM_{10}**
Grampian Country Chickens (Rearing) Ltd, High House Farm, Heveningham Long Lane, Peasenhall	Environment Agency (IPPC 15)	63450 27082	Intensive Farming Activity Section 6.9 A(1) (a) (i)	Part A1 activity	**PM_{10}**
Grampian Country Chickens (Rearing) Ltd, Green Poultry Farm, Badingham	Environment Agency (IPPC 16)	63220 26870	Intensive Farming Activity Section 6.9 A(1) (a) (i)	Part A1 activity	**PM_{10}**
P.R. & R.H. Leggett Ltd Walnut Tree Farm, Ashbocking	Environment Agency (IPPC 17)	61859 22544	Intensive Farming Activity Section 6.9 A(1) (a) (i)	Part A1 activity	~
Gressingham Farms Loomswood Farms, Debach	Environment Agency (IPPC 18)	62437 25334	Intensive Farming Activity Section 6.9 A(1) (a) (i)	Part A1 activity	**PM_{10}**
Gressingham Farms Maple Tree Farm, Clopton Road, Tuddenham St Martin	Environment Agency (IPPC 19)	61946 25059	Intensive Farming Activity Section 6.9 A(1) (a) (i)	Part A1 activity	**PM_{10}**
Crown Chicken Ltd Darsham Poultry Farm, The Street, Thorington	Environment Agency (IPPC 20)	64103 27198	Intensive Farming Activity Section 6.9 A(1) (a) (i)	Part A1 activity	**PM_{10}**

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Name and address of authorised process	Authority issuing authorisation (Public Register file reference – where applicable)	Grid reference for process	Installation Activity Section number and Process Guidance (PG) note under which process is authorised	Process description	Pollutants (if any) for which this process is a potentially significant emitter, as specified in LAQM.TG(03) **
Hook 2 Sisters Limited Driftway Farm, Cratfield Road, Linstead Magna	Environment Agency (IPPC 21)	63070 27725	Intensive Farming Activity Section 6.9 A(1) (a) (i)	Part A1 activity	**PM_{10}**
Woodlark Farming Ltd Chediston Hall Pig Unit, Chediston Hall, Chediston	Environment Agency (IPPC 22)	63697 27759	Intensive Farming Activity Section 6.9 A(1) (a) (i)	Part A1 activity	~
R.H. & R. Paul Broxtead Estate, Sutton	Environment Agency (IPPC 23)	63123 24580	Intensive Farming Activity Section 6.9 A(1) (a) (i)	Part A1 activity	~
Grampian Country Chickens (Rearing) Limited, Lampard Brook, Framlingham	Environment Agency (IPPC 24)	63570 26860	Intensive Farming Activity Section 6.9 A(1) (a) (i)	Part A1 activity	**PM_{10}**
Hillfairs Poultry Farm Thorington Quarry, Thorington	Environment Agency (IPPC 25)	64215 27283	Intensive Farming Activity Section 6.9 A(1) (a) (i)	Part A1 activity	**PM_{10}**

**** The Technical Guidance LAQM.TG (03) advises that a process is only classed as a significant emitter of SO_2 if it burns coal or heavy fuel oil.**

Appendix I: Consultation responses

Summary of Consultation responses received from the Consultation on the Updating and Screening Assessment Report 2006 and the Consultation on the Detailed Assessment for Adastral Close and Ferry Lane Felixstowe and the Progress Report 2008.

Topic of response	Number of responses received from 2007 Consultation	Number of responses received from 2008 Consultation
Satisfied with the process/report and/or had no specific comments to make	3	4
AQMA at Woodbridge Junction	1	7
Investigations in Felixstowe (relating to emissions from activities on and associated with the Port of Felixstowe)	1	7
Emissions from traffic using the A12 near to the BT and Park & Ride roundabouts	~	3
PM_{10} emissions from the Sinks Pit site, Kesgrave	~	1
Suggestions for additional monitoring sites	~	3
Adastral Park, Martlesham Heath - planning application	~	2
Concerns regarding emissions from shipping and the Port of Felixstowe affecting the Bawdsey peninsula	~	2

Consultation responses received relating to the AQMA at Woodbridge have been added to those previously received for this junction and will form part of the draft Action Plan which will be placed before the Council's Cabinet in October 2009 for consideration. Comments relating to each suggestion raised are included in the draft action plan report as an Appendix. Consultation responses relating to emissions from and associated with the Port of Felixstowe will form part of the Action Plan which must now be drawn up for the AQMA declared at The Dooley Inn, Ferry Lane, Felixstowe on 1 May 2009, and will be presented as part of this document.

The remaining topics covered by consultation responses have been dealt with individually and our reply/comment is detailed below:

- **Emissions from traffic using the A12 near to the BT and Park & Ride roundabouts.** Requests were made in the Consultation responses for additional monitoring along this stretch of the A12. This stretch of the A12 trunk road has had screening modelling undertaken in previous air quality reports, which concluded that predicted levels of relevant pollutants (NO_2 and PM_{10}) are within the air quality objectives. No further action was therefore required at the time. This Updating and Screening Assessment report has required that we check emissions from road traffic within the district to determine any areas of concern (section 3). No stretches of the A12 trunk road have been found to require any additional assessment.

  It was decided however, in light of possible future development at Adastral Park, and the closeness of nearby housing to the kerbside, that a monitoring location for nitrogen

dioxide (using passive diffusion tubes) would be set up on this stretch of the A12 close to the BT roundabout. This will enable us to confirm current levels and monitor any future changes. The site began monitoring earlier this year and results will be presented in our annual air quality reports.

- **PM_{10} emissions from the Sinks Pit site, Kesgrave.** Concern was raised regarding measurements of PM_{10} undertaken in 2001 in Little Bealings near to the Sinks Pit site, in that the measurement had been above the acceptable level. A request was made to repeat the monitoring to confirm current levels of PM_{10} in this location.

  The monitoring undertaken in 2001 was not actually required under the air quality guidance, as basic screening tools provided by the Government concluded that PM_{10} emissions from the site would not cause the objectives to be exceeded. However, we decided to carry out the monitoring as a precautionary approach following the number of environmental nuisance complaints received from local residents to the site. The monitoring was carried out for 3 months over the summer period when the highest emissions of dust and PM_{10} would be expected due to the warm and dry weather minimising the natural dust suppression which usually occurs from precipitation. The results obtained were then extrapolated to indicate what the levels for a whole year would be (as the 24-hour mean air quality standard allows 35 days of exceedences to cover events such as Bonfire Night and extreme weather conditions when PM_{10} levels around the entire UK would be elevated anyway).

  The results of the investigation showed the annual mean to be 26.8µg/m^3 - within the air quality standard of 40µg/m^3. The results showed 3 days on which the 24-hour mean objective (50µg/m^3) was exceeded during the monitoring period. When the result was extrapolated to indicate the number of predicted exceedences for the whole year, there were 21. As explained above, the standard allows 35 days of exceedences per year. The objective was therefore not exceeded.

  As activities at the site have been reduced since the monitoring was undertaken in 2001, we have no reason to believe that the objectives would now be exceeded and as such there is no further monitoring planned for the site. Should you wish to view the report detailing the monitoring undertaken in 2001, it is available on the Council's website at http://www.suffolkcoastal.gov.uk/yourdistrict/envprotection/airquality/reports/default.htm.

- **Suggestions for additional monitoring sites.** Suggestions were received for additional monitoring at locations around the Woodbridge Junction, at the Melton crossroads, Main Road Kesgrave from St. Olaves Road to the junction with Bell Lane, the A12 trunk road (as detailed above in a previous consultation response) and within additional areas of Felixstowe including the estuary.

  The review and assessment process allows us to identify areas where we may have air quality concerns, and this in turn determines our choice of monitoring locations. Our list of monitoring locations is checked at least once a year to confirm that there are no new sites required or current ones that need to be removed. We currently undertake monitoring in all of the locations above (with the exception of the estuary) and our choice of position is carefully thought out using advice from Defra and other air quality experts, usually in positions where we would obtain the worst case readings. At the moment we do not intend to add any further monitoring sites in the above areas as we are happy with our current sites (with the exception of the A12 trunk road as detailed in a previous consultation response reply).

- **Planning application for Adastral Park, Martlesham Heath.** Comments were received voicing concern about elevated air pollution levels on the A12 trunk road from the Tesco roundabout to the seven hills roundabout in light of the proposed planning application for

Adastral Park, at Martlesham Heath. The first planning application received for this site was withdrawn and another planning application has recently been received. This application is being looked at and an air quality assessment will be made based on the information provided. The new diffusion tube site on the A12 near to the BT roundabout (see comments above for one of the previous consultation responses) has been put in place so that we can assess the current and future air quality in this locality.

- **Emissions from shipping and the Port of Felixstowe affecting receptors in Bawdsey**. Comments were received regarding thick smog and 'oily' smells affecting areas within the Bawdsey Parish (Shingle Street in particular) and concern that this would worsen once the Felixstowe South Reconfiguration and the Bathside Bay extension at Harwich are on-line (increased number of shipping movements).

  The Government has provided local authorities with screening information, based on practical studies undertaken at other Ports. They are only concerned, on health grounds, with emissions of sulphur dioxide from ships. On the basis of evidence derived from local authority Detailed Assessments of Ports, it is concluded that exceedences of the 15-min objective for sulphur dioxide are only likely to occur at very large ports, and where public exposure is very close to the emissions. An authority should only need to undertake a Detailed Assessment of shipping emissions where there is relevant exposure within 250 metres of the emissions sources, and there are between 5,000 to 15,000 movements per year, or where there is relevant exposure within 1 km and over 15,000 movements per year. The Port of Felixstowe falls within the category of 5,000 -15,000 movements per year. The rationale to support the Governments advice can be seen at - http://www.uwe.ac.uk/aqm/review/shipping.pdf Receptors within Bawdsey are not within 250m of the shipping lanes and as such would not be expected to receive emissions to raise the level of sulphur dioxide in the area to above the health based objective levels.

  The monitoring and computer modelling undertaken in our Detailed Assessment for Felixstowe included emissions from shipping, Port equipment and road traffic in the vicinity. The study looked at those receptor locations closest to the ships emissions as these will receive the greatest concentrations of pollutants. In addition, there are a number of other sources of pollutant emissions from the Port of Felixstowe and its main access routes which could combine with the ships emissions, hence the choice of Ferry Lane and Adastral Close for our monitoring. If concentrations at these locations do not exceed the standards then at locations farther away (such as Bawdsey) the concentrations will also be expected to be within the health based standards. The findings confirmed that at only one building (the Dooley Inn Public House) the standards for nitrogen dioxide may be exceeded due to emissions from equipment used on the Port itself. At all other locations around the Port of Felixstowe pollutant concentrations were within the standards set by the Government.

Appendix J: Domestic solid-fuel burning information

Assessment of solid fuel use within each parish of the Suffolk Coastal district 2003/2004

Parish	Does parish have gas supply? (Info. from TRANSCO)	Number of houses per 500m x 500m area (Info. from SCDC GIS*)	Does 2001 census data show >50 houses without central heating?	Parishes with complaints recorded in 2000-2003 for smoke from chimneys	Site visit needed?	Number of houses seen (where site visit undertaken) with smoke coming from chimney?
Aldeburgh	Yes	438	**Yes**	**Yes (1)**	**Yes**	**11**
Alderton	**No**	229	No	-	No	-
Aldringham	Yes	99	No	-	No	-
Badingham	**No**	58	No	-	No	-
Bawdsey	**No**	73	No	-	No	-
Great Bealings	**No**	57	No	-	No	-
Little Bealings	**No**	19	No	-	No	-
Benhall	**No**	108	No	-	No	-
Blaxhall	**No**	55	No	-	No	-
Blythburgh	**No**	108	No	-	No	-
Boyton	**No**	44	No	-	No	-
Bramfield	**No**	91	No	-	No	-
Brandeston	**No**	75	No	-	No	-
Bredfield	Yes	52	No	-	No	-
Brightwell	**No**	12	No	-	No	-
Bromeswell	**No**	57	No	-	No	-
Bruisyard	**No**	24	No	-	No	-
Bucklesham	**No**	144	No	-	No	-
Butley	**No**	39	No	-	No	-
Burgh	**No**	37	No	-	No	-
Boulge	**No**	5	No	-	No	-
Capel St Andrew	Yes	20	No	-	No	-
Campsea Ashe	**No**	58	No	-	No	-
Charsfield	**No**	49	No	-	No	-
Chediston	**No**	35	No	**Yes (1)**	No	**-**
Chillesford	**No**	48	No	-	No	-
Clopton	**No**	43	No	-	No	-
Cookley	**No**	7	No	-	No	-
Cransford	**No**	34	No	-	No	-
Cratfield	**No**	52	No	-	No	-
Cretingham	**No**	51	No	-	No	-
Culpho	**No**	6	No	-	No	-
Dallinghoo	**No**	27	No	-	No	-
Darsham	**No**	24	No	-	No	-
Debach	**No**	17	No	-	No	-
Dennington	**No**	108	No	-	No	-
Dunwich	**No**	161	No	-	No	-
Earl Soham	**No**	66	No	-	No	-
Easton	**No**	89	No	-	No	-
Eyke	**No**	82	No	-	No	-
Falkenham	**No**	24	No	-	No	-
Farnham	**No**	41	No	-	No	-
Felixstowe	Yes	700	**Yes**	-	**Yes**	**20**
Foxhall	Yes	9	No	-	No	-
Framlingham	Yes	410	**Yes**	-	**Yes**	**2**
Friston	**No**	126	No	-	No	-
Gedgrave	**No**	10	No	-	No	-
Great Glemham	**No**	50	No	-	No	-
Little Glemham	**No**	57	No	-	No	-
Grundisburgh	Yes	224	No	-	No	-

Suffolk Coastal District Council - England

Parish	Does parish have gas supply? (Info. from TRANSCO)	Number of houses per 500m x 500m area (Info. from SCDC GIS*)	Does 2001 census data show >50 houses without central heating?	Parishes with complaints recorded in 2000-2003 for smoke from chimneys	Site visit needed?	Number of houses seen (where site visit undertaken) with smoke coming from chimney?
Hacheston	Yes	43	No	-	No	-
Hasketon	**No**	63	No	-	No	-
Hemley	**No**	13	No	-	No	-
Heveningham	**No**	36	No	-	No	-
Hollesley	**No**	164	No	-	No	-
Hoo	**No**	7	No	-	No	-
Huntingfield	**No**	51	No	-	No	-
Iken	**No**	10	No	-	No	-
Kelsale	**No**	182	No	-	No	-
Kesgrave	Yes	387	No	**Yes (3)**	No	**-**
Kettleburgh	**No**	69	No	-	No	-
Kirton	Yes	251	No	-	No	-
Knodishall	**No**	138	No	-	No	-
Leiston	Yes	500	**Yes**	-	**Yes**	**22**
Letheringham	**No**	15	No	**Yes (1)**	No	-
Levington	Yes	86	No	-	No	-
Linstead Magna	**No**	3	No	-	No	-
Linstead Parva	**No**	9	No	-	No	-
Marlesford	**No**	50	No	-	No	-
Martlesham	Yes	144	No	-	No	-
Martlesham Heath	Yes	473	No	-	No	-
Melton	Yes	389	**Yes**	-	**Yes**	**2**
Middleton	**No**	100	No	-	No	-
Monewden	**No**	25	No	-	No	-
Nacton	Yes	118	No	-	No	-
Newbourne	**No**	42	No	-	No	-
Orford	**No**	220	No	-	No	-
Otley	**No**	93	No	-	No	-
Parham	Yes	48	No	-	No	-
Peasenhall	**No**	104	No	**Yes (1)**	No	-
Petistree	**No**	24	No	-	No	-
Playford	**No**	57	No	-	No	-
Purdis Farm	Yes	182	No	-	No	-
Ramsholt	**No**	10	No	-	No	-
Rendham	**No**	75	No	-	No	-
Rendlesham	Yes	266	No	-	No	-
Rushmere	**No**	388	No	-	No	-
Saxmundham	Yes	438	**Yes**	-	**Yes**	**3**
Saxtead	**No**	43	No	-	No	-
Shottisham	**No**	71	No	-	No	-
Sibton	**No**	4	No	-	No	-
Sizewell	**No**	14	No	-	No	-
Snape	**No**	188	No	-	No	-
Sternfield	**No**	23	No	-	No	-
Stratford St Mary	**No**	53	No	-	No	-
Stratton Hall	**No**	4	No	-	No	-
Sudbourne	**No**	81	No	-	No	-
Sutton	**No**	57	No	-	No	-
Sweffling	**No**	48	No	-	No	-
Swilland	**No**	22	No	-	No	-
Theberton	**No**	64	No	-	No	-
Thorington	**No**	5	No	-	No	-

Suffolk Coastal District Council - England

Parish	Does parish have gas supply? (Info. from TRANSCO)	Number of houses per 500m x 500m area (Info. from SCDC GIS*)	Does 2001 census data show >50 houses without central heating?	Parishes with complaints recorded in 2000-2003 for smoke from chimneys.	Site visit needed?	Number of houses seen (where site visit undertaken) with smoke coming from chimney?
Thorpeness	Yes	158	No	-	No	-
Trimley St Martin	Yes	449	**Yes**	-	**Yes**	**3**
Trimley St Mary	Yes	966	**Yes**	-	**Yes**	**3**
Tuddenham	**No**	113	No	-	No	-
Tunstall	**No**	129	No	-	No	-
Ubbeston	**No**	16	No	-	No	-
Ufford	Yes	107	No	-	No	-
Walberswick	**No**	127	No	-	No	-
Waldringfield	**No**	121	No	-	No	-
Walpole	**No**	58	No	-	No	-
Wantisden	**No**	15	No	-	No	-
Wenhaston	**No**	142	No	-	No	-
Westerfield	**No**	80	No	-	No	-
Westleton	**No**	160	No	-	No	-
Wickham Market	Yes	423	No	-	No	-
Witnesham	**No**	152	No	-	No	-
Woodbridge	Yes	459	**Yes**	-	**Yes**	**10**
Yoxford	Yes	114	No	-	No	-