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Comberton Road, Toft, Cambridge

Residential Development

Bloomhall Ltd.

Dust and Odour Risk Assessment

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Project Revision Sheet

Revision No.	Date	Status	Changes	Author	Approved
0	24 April 2015	Final		P. Chan	D. Gill
1	7 May 2015	Final	Revised Site Plan	P. Chan	D. Gill

Contents

Executive Summary

MLM Consulting Engineers Ltd (MLMCEL) was commissioned by Bloomhall Ltd. (the Client) to carry out a Dust and Odour Risk Assessment for an indicative residential development on land at Comberton Road, Toft, Cambridge.

A previous planning application (Reference: S/2825/14/OL) was submitted to South Cambridgeshire District Council (SCDC) but it was refused on grounds including the concern of dust and odour issues from the Warton and Clark Waste Transfer business immediately to the North of the indicative development site.

MLM has tried to obtain as much information as possible from Warton and Clark to understand its operation. However it is only known that it has six vehicles delivering and collecting skips hired out, and it is a fully licenced waste transfer business (Permit number 70221, with facility type code A11). The business handles household and construction waste mainly and it is unlikely that it handles any putrescible waste. There was no formal dust or odour complaint record at the Council due to the operation of the business and the business itself has also suggested that it has not received any such complaint in the past.

A dust risk assessment has been carried out in accordance to the IAQM's 'Guidance on the Assessment of Dust from Demolition and Construction' document. Based on the limited information available, it is considered that the risk of dust soiling impact from the waste handling activities as well as trackout of vehicles entering and leaving the Warton and Clark site on the indicative development is **low to medium**. The risk of human health impact is considered to be **low**.

The indicative development is considered to be highly sensitive to any odour arising, as the future residents will reasonably expect enjoyment of a high level of amenity and be expected to be present at the development continuously.

A short-term sniff test was carried out by MLM on 24 March 2015 at the indicative development site at six different locations. The procedures as recommended in the IAQM's 'Guidance on the Assessment of Odour for Planning' document were followed. It is considered that the odour detected from the sniff test was unlikely to come from the Warton and Clark business. At Location 1 and 4 where odour was detected, it is considered that it came from the horse yard primarily and from road traffic occasionally. The odour exposure across the indicative development site, based on the short-term sniff test, is considered to be **small to negligible**.

Overall, based on the information currently available and the results of the site visit, it is considered that dust and odour impacts are not likely to be a significant constraint for residential development at this site.

Limitations and Exceptions

1 This report and its findings should be considered in relation to the terms and conditions proposed and scope of works agreed between MLM Environmental and the client.

2 The Executive Summary, Conclusions and Recommendations sections of the report provide an overview and guidance only and should not be specifically relied upon until considered in the context of the whole report.

3 This report provides available factual data for the site and the surrounding area at the time of the study and as obtained by the means described in the text. The data is related to the site on the basis of the site location information provided by the Client.

4 It should be appreciated that the information that has been made available to date, is not necessarily exhaustive and that further information relevant to the proposed site usage may be provided which could change the overall findings.

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7 This report is prepared and written in the context of the proposals stated in the introduction to this report and should not be used in a differing context. Furthermore, new information, improved practices and legislation may necessitate an alteration to the report in whole or in part after its submission. Therefore, with any change in circumstances or after the expiry of one year from the date of the report, the report should be referred to us for re-assessment and, if necessary, re-appraisal.

1 Introduction

1.1 General

MLM Consulting Engineers Ltd (MLMCEL) was commissioned by Bloomhall Ltd. (the Client) to carry out a Dust and Odour Risk Assessment for the indicative residential development on land at Comberton Road, Cambridge. The Local Authority responsible for determining the planning application is South Cambridgeshire District Council (SCDC).

1.2 Background

The Client is proposing a residential development on the site on land at Comberton Road, Cambridge. A previous planning application (Reference: S/2825/14/OL) was submitted to SCDC but it was refused on grounds including the concern of dust and odour issues.

MLM has spoken with Mr Matthew Bullock, the EHO at SCDC, who has contributed to the decision for the client's previous planning application. He has expressed his concern and reservation about the suitability of the site for residential use as, in his view, the noise, odour and dust impact coming from the nearby Warton and Clark waste transfer station may be significant and there is a very high likelihood that there will be complaints from the future residents.

1.3 Objectives

In view of the above, the Client has instructed MLM to carry out an assessment to determine the likelihood of dust and odour impacts at the development site.

1.4 Report Structure

The structure of the report is summarised below:

- A brief description of the site and indicative development;
- A brief description of the legislation governing dust and odour in England;
- Methodology of the assessment;
- Baseline conditions;
- Impact Assessment; and
- Conclusions

2 The Site

2.1 Location and Description

The site is currently a plot of unoccupied land in Comberton, Cambridge. The B1046 Comberton Road runs along the southern boundary of the site. The Warton and Clark skip hire and waste transfer business is immediately to the north of the site. There are a number of existing residential and commercial buildings to the immediate west of the site along Hardwick Road, and also a construction site at the corner of the Hardwick Road / Comberton Road junction.

To the south of the site across Comberton Road, there is a golf course, as well as a number of other residences.

The location and extent of the development and Warton and Clark sites are identified in Figure 1 below.

Figure 1: The location and extent of the development (red line) and Warton and Clark (green line) sites

2.2 Indicative development

The Client is proposing to develop two 1.5 storey residential houses on the site. Their locations are shown in Figure 2 below. As it is an outline planning application, the site plan is indicative.

Figure 2. Site layout plan

3 Regulatory and Policy Context

3.1 Environmental Protection Act

Dust is defined as all particulate matter up to 75 µm in diameter and comprising both suspended and deposited dust, where PM_{10} is a mass fraction of airborne particles of diameter of 10 µm or less. The health effect associated with dust include eye, nose and throat irritation in addition to the nuisance caused by deposition on cars, windows and property.

Under Section 79 of the Environmental Protection Act 1990 (England, Scotland and Wales), a statutory nuisance can be "any dust, steam or effluvia arising on industrial trade or business premises and being prejudicial to health or a nuisance".

In the UK the main requirements with respect to industrial odour control as regulated by the Local Authority are also those relating to nuisance as provided in Section 79 of the Environmental Protection Act 1990. Enforcement of the Act in regard to nuisance is normally left to the judgement of the local Environmental Health Department whose officers are deemed to provide an independent evaluation. Enforcement of planning conditions can require that no odours be permitted beyond the boundary of the works. The only defence for the operator of a process which may give rise to odours outside its boundaries is to show that the process is applying 'best practicable means' to minimise nuisance potential. The necessity to assess odour as a planning consideration is outlined in 'Odour Guidance for Local Authorities'

3.2 Planning Policies

The current National Planning Policy Framework (NPPF) states that the planning system should contribute to and enhance the natural and local environment preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability (Clause 109)

Moreover, to prevent unacceptable risks from pollution and land instability, planning policies and decisions should ensure that new development is appropriate for its location. The effects (including cumulative effects) of pollution on health, the natural environment or general amenity, and the potential sensitivity of the area or indicative development to adverse effects from pollution, should be taken into account. Where a site is affected by contamination or land stability issues, responsibility for securing a safe development rests with the developer and/or landowner (Clause 120).

3.3 Environmental Permitting

The Environmental Permitting regime ('the regime') requires operators to obtain permits for some facilities, to register others as exempt and provides for ongoing supervision by regulators. There are nine classes of regulated facilities, including waste operations (Environmental Permitting Regulation 8(1)(c)). A waste operation is defined in regulation 2 by reference to the recovery and disposal operations in the revised Waste Framework Directive.

The Compliance Rating of a site shows the total Compliance Classification Scheme (CCS) score during that calendar year. All sites start the calendar year with no breaches and hence a Band A Compliance Rating. As the year progresses breaches may be recorded against permit requirements, points are accrued and band ratings reduce. Compliance Rating Scores is the Environment Agency's report of the level of permit breaches it has recorded at sites during the year.

4 Methodology

4.1 Competency of Assessor

The IAQM assessment methods require all assessments to be undertaken by an experienced professional as a degree of professional judgement is required.

This assessment has been carried out by two air quality professionals. Philbert Chan and Soraya Hashemi are the Senior Air Quality Consultant and Environmental Consultant at MLM and they both have extensive experience in carrying out air quality assessments for indicative developments in the UK.

4.2 Consultation with Warton and Clark Operator

In order to understand the operation of the Warton and Clark business, for example the type and amount of waste they handle, the frequency of waste collection and disposal, MLM has tried to contact the operator to carry out a short interview. However, despite clearly explaining the objective of the interview, MLM has not been able to obtain all the information required. It is only known that the business owns six vehicles to deliver and collect skips hired out, and the type of waste that they handle includes household and construction waste.

According to the information displayed on Environment Agency's website, it is known that Warton and Clark is a fully licenced waste transfer business (Permit number 70221, with facility type code A11). The business is permitted to accept predominantly non-hazardous waste but may also include the storage and manual sorting of hazardous Waste Electrical and Electronic Equipment (WEEE), for transfer between modes of transport and/or bulking up. This may include some forms of treatment both manual and mechanical, such as manual and physical sorting, and compaction provided that they are solely for the purpose of improving payloads.

The business' Compliance Rating Score was 4 (Good), with one Category 3 breach (potential to have a minor environmental impact) in 2014.

4.3 Complaints History

MLM has consulted with the EHO at SCDC and it has been confirmed that there was no official complaint received at SCDC regarding dust or odour issue in the local area.

According to the short conversation that MLM had with the operator at Warton and Clark, it is also understood that they have also not received any complaint in the past.

4.4 General

Odour exposure occurs only when three links in the source-pathway-receptor chain are present.

- *Source* is the origin where the odour is released/emitted into the atmosphere.
- *Pathway* refers to the travelling of the odour through the air to locations off site. Increasing the length of the pathway will increase the dilution and dispersion, hence reducing the concentration of the odour at the receptor, hence reducing exposure.
- *Receptors* refer to the presence of people. They may experience an adverse effect, although their sensitivities towards odour differ from individual to individual.

4.5 Dust Risk Assessment

The potential dust impacts from the operation of the Warton and Clark skip hire / waste transfer business may occur due to the handling and temporary storage of waste collected, as well as the vehicles going into and out of the site.

There is no specific guidance available to assess such activities, but it is considered that the methodology set out in the IAQM "Guidance on the assessment of dust from demolition and construction" can be used for such assessment. The demolition, earthwork and construction activities as described in the guidance are similar in nature to the activities within the Warton and Clark premises. While the skip hire vehicles entering and leaving the site can refer to the "trackout" activities during a construction project. As a result, the methodology as set out in this IAQM guidance was used to assess the potential dust impact from the Warton and Clark business on the indicative development.

4.6 Odour Risk Assessment

The methodology for assessing odour as set out in the IAQM "Guidance on the Assessment of Odour for Planning" was used.

The scale of the exposure (the impact) is determined by the parameters collectively known as the FIDO factors (Frequency, Intensity, Duration and Offensiveness). The magnitude of the effect experienced is determined by the scale of the exposure and also the sensitivity of the receptor (Location). Table 1 below shows the description of the FIDOL factors.

Table 1 Description of the FIDOL factors (IAQM 2014)

Frequency	How often an individual is exposed to odour
Intensity	The individual's perception of the strength of the odour
Duration	The overall duration that individuals are exposed to an odour over time
Odour Unpleasantness	Odour unpleasantness describes the character of an odour as it relates to the 'hedonic tone' (which may be pleasant, neutral or unpleasant) at a given odour concentration/intensity. This can be measured in the laboratory as the hedonic tone, and when measured by the standard method and expressed on a standard non-point scale it is termed the hedonic score.
Location	The type of land use and nature of human activities in the vicinity of an odour source. Tolerance and expectation of the receptor. The 'Location' factor can be considered to encompass the receptor characteristics, receptor sensitivity, and socio-economic factors.

Once an odour exposure is considered a negative appraisal by a human receptor, the process can lead to adverse effects such as disamenity, annoyance, nuisance and possibly complaints.

A half-day "sniff-test" was carried out by two professional air quality consultants from MLM on 24 March 2015, in accordance to the procedure as set out in Box 4 of Appendix 2 in the IAQM Guidance document. The procedure used is summarised below.

- Sensory test was carried out at six locations across the indicative development for five minutes at each location;
- A locations and their sequence are shown in Figure 3.

Figure 3. Sensory test locations

- The meteorological conditions at the time of testing, as well as the activities from the surrounding, were recorded.
- Both assessors took a sample every 10 seconds over a five minute period at each location. Sample was taken by breathing normally, hence inhaling ambient air samples through the nose.
- For each sample the odour intensity (VDI scale) was recorded. See Table 2 for the description of the VDI scale.
- At the end of the observation at each location the odour unpleasantness was noted down by classifying it as unpleasant, neutral or pleasant.
- The odour descriptor was also noted as appropriate.
- The pervasiveness or extent of the odour at each test location was assessed by calculating the percentage odour time ($t_{I\geq4}$). The number of samples where the intensity if higher than VDI 4 was divided by the total number of samples taken (30 in this case).
- The average odour intensity, I_{mean}, over the test period was calculated and the maximum intensity observed was noted.

Table 2 VDI3940 Odour Intensity Scale

Odour Strength	Intensity Level	Comments
No odour/not perceptible	0	No odour when compared to the clean site
The Odour Detection Threshold (ODT) of 1 ou_E/m^3 is somewhere between 0 and 1		
Slight/very weak	1	There is probably some doubts as to whether the odour is actually present
Slight/weak	2	The odour is present but cannot be described using precise words or terms
Distinct	3	The odour character is barely recognisable
VDI 3940 says that the recognition threshold intensity is generally 3-10 times higher than the ODT (i.e. 3 ou_E/m^3)		
Strong	4	The odour character is easily recognisable
Very strong	5	The odour is offensive. Exposure to this level would be considered undesirable
Extremely strong	6	The odour is offensive. An instinctive reaction would be to mitigate against further exposure.

A risk assessment based on the findings from the test, as well as the odour source and sensitivity of the receptor was then carried out.

The IAQM guidance provided a matrix to assess the odour exposure (neutral and unpleasant odours) at time and place of sampling, and it is reproduced below.

Table 3 Matrix to assess odour exposure (neutral and unpleasant odours)

		Percentage odour time ($t_{I\geq4}$) during the test				
		≤10%	11 to 20%	21 to 30%	31 to 40%	≥41%
Average intensity (I_{mean})	6	Large	Very Large	Very Large	Very Large	Very Large
	5	Medium	Large	Large	Very Large	Very Large
	4	Small	Medium	Medium	Large	Large
	3	Small	Medium	Medium	Medium	Medium
	2	Small	Small	Medium	Medium	Medium
	1	Small	Small	Small	N/A	N/A

If I_{mean} = 0, the odour effect can for practical purposes be considered negligible
If I_{mean} = 1 but $t_{I\geq4}$ = 0%, the odour effect can for practical purposes be considered negligible

5 Dust Assessment

The precise behaviour of the dust, its residence time in the atmosphere, and the distance it may travel before being deposited would depend upon a number of factors. These include wind direction and strength, local topography and the presence of intervening structures (buildings, etc.) that may intercept dust before it reaches sensitive locations.

5.1 Prevailing Meteorological Condition

According to the wind data and wind rose from the Bedford met station for 2013 (Figure 4), the predominant stronger wind (>3m/s) direction is from south-west and north-east, and these account for approximately 76% of time for the year. According to the historical meteorological data for Cambridge from the Met Office, the annual rainfall in the area is 568.1mm, while there were 107.5 days (~30%) in a year that had rainfall more than 1mm.

It is considered that the primary source of dust will be from the Warton and Clark site itself, and thus only the stronger north-east wind may create an impact. Together with the chance of rainfall, it is considered that there would be a <15% chance throughout the year when there will be sufficiently strong wind, in combination with dry weather, for any dust from the Warton and Clark site to have an impact on the indicative development.

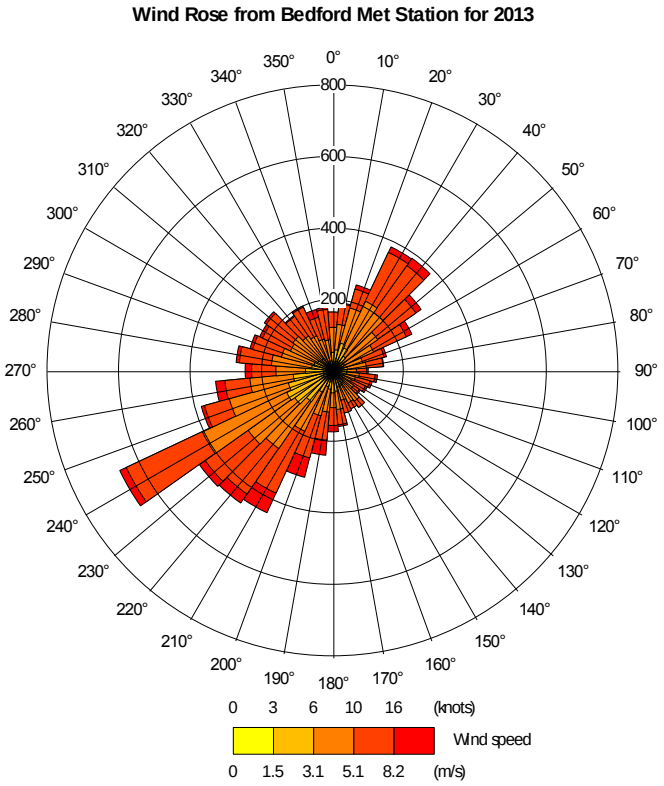

Figure 4. Wind rose from Bedford met station for 2013

5.2 Risk Assessment of Dust Impacts

5.2.1 Potential Dust Emission Magnitude

The dust emission magnitude from the Warton and Clark business is based on the scale of anticipated works there and has been classified as small, medium or large for the activities on site. A summary of the dust emission magnitude for them is set out in Table 4.

Waste handling activities

The activities at the Warton and Clark business includes loading and unloading skips containing waste, and piling of waste for transfer as well. Most of these activities will happen near the ground level (Figure 5). The site covers an area of approximately 6,200 m^2. Realistically the waste handling activities will not take place at all locations within the site. As a worst case scenario, waste would be handled at ¾ of the area of the site, and all six vehicles that the business own would operate simultaneously at the site. The potential dust emission magnitude is considered to be **'medium'** for these waste handling activities at the Warton and Clark site.

Figure 5. Skip loading and unloading near the site boundary

Trackout

The risk of impacts occurring during trackout is predominantly dependent on the number of vehicles accessing the site on a daily basis. However, vehicle size and speed, the duration of activities and local geology are also factors which are used to determine the emission class of the Site as a result of trackout.

The exact vehicle movements to and from the Warton and Clark site is currently unknown (refer to section 4.2, operator consultation). It is only known that there are six vehicles at the site. During the site visit on 24 March 2015, a total of four vehicles were seen entering and leaving the site over a 2-hour period (Figure 6). The roads inside the business and just outside on Hardwick Road was moderately dusty on the day of survey (Figure 7). Therefore, it is considered that the dust emission magnitude would be **'large'** for trackout.

Table 4 Summary of Dust Emission magnitude for each Activity

Source	Magnitude
Waste handling activities	Medium
Trackout	Large

Figure 6. Skip hire vehicle from Warton and Clark leaving the site

Figure 7. Hardwick Road at the entrance/exit of Warton and Clark

5.2.2 Sensitivity of the Area

The sensitivity of the surrounding area takes account of the following factors:

- the specific sensitivities of receptors in the area
- the proximity and number of those receptors
- in the case of PM_{10}, the local background concentrations
- site-specific factors i.e. whether there are natural shelters such as trees, to reduce the risk of wind-blown dust.

Based on the IAQM guidance residential dwellings are considered as **'high'** sensitivity receptors in relation to both dust soiling and health effects of PM_{10}.

According to the latest urban background PM_{10} concentrations measured in the South Cambridgeshire District, which the value is 22µg/m^3, it is considered that the sensitivity of the indicative development to human health impacts is considered to be **'low'**.

As a general guide, significant impacts from trackout may occur up to 200 m from medium sites as measured from the site exit. On the day of survey, most of the vehicles leaving the Warton and Clark site turned left onto Comberton Road. The indicative development is situated within 200 m from the Warton and Clark business site and it is also less than 20 m from the kerb of Comberton Road. Therefore the sensitivity of the indicative development to dust and soiling effects from trackout is considered to be **'medium'** near the boundary of the site, and **'low'** for locations further away.

A summary of the sensitivity of the area surrounding the Site in relation to each activity is provided below in Table 5.

Table 5 Summary of Sensitivity of indicative development area

Potential Impact	**Sensitivity of indicative development**	
	Dust Handling Activities	**Trackout**
Dust Soiling	Low to Medium	Low to Medium
Human Health	Low	Low

5.2.3 Defining the Risk of Impacts

The dust emission magnitude as set out in Table 4 is combined with the sensitivity of the indicative development area (Table 5) to determine the risk of both dust soiling and human health impacts. The risk of impacts associated with each activity is provided in Table 6.

Table 6 Summary of Risk Effects

Potential Impact	**Risk**	
	Dust Handling Activities	**Trackout**
Dust Soiling	Low to Medium Risk	Low to Medium Risk
Human Health	Low Risk	Low Risk

6 Odour Assessment

6.1 Sensitivities of receptors to odour effect

The indicative development will be residential in nature. According to the IAQM guidance, the residents/receptors within the development will be of **"High Sensitivity"** as they will reasonably expect enjoyment of a high level of amenity and be expected to be present at the development continuously.

6.2 Details of the potential odour sources

Information about the potential odour source from the Warton and Clark business is limited. As explained in Section 4.2, MLM has tried to carry out an interview with a representative from the business but it has not been successful in obtaining detailed information. It is only understood that the business has six vehicles delivering empty skips and collecting them back from various clients which may contain mainly household and construction waste.

According to permit of the business, it is unlikely that the waste collected will include any putrescible waste. This kind of waste will normally be disposed of as domestic waste and collected by the local authority. According to the limited site observation (Figure 8), no putrescible waste could be seen stored on site.

The waste collected would be sorted and stored at the site temporarily before going to landfill or other destinations. It is not known the amount of waste that the business handles, the residency time of the waste on site, or how the waste is being treated there. It has not been possible to carry out a visit to the business to fully understand its operation.

There is also a horse stable yard to the south-west of the site, immediately across Comberton Road (Figure 9).

Figure 8. Operation of Warton and Clark

Figure 9. Horse stable yard on Comberton Road

6.3 Odour observation on site (Sniff Test)

The weather was sunny, with temperature at around 8-9°C on the day of the odour sensory test (24 March 2015). There was mild north-westerly/northerly wind (approximately 5-6 mph) blowing between 10-12am. Humidity was around 65%, and atmospheric pressure was about 1008 mBar. There was no rainfall at the time of carrying out the sensory test and also the day before.

Sensory tests were carried out at six locations on the site, as indicated in Figure 2. The test commenced on locations that are likely to be least affected by odours from the waste transfer station (i.e. furthest away).

The odour unpleasantness and descriptor, percentage odour time ($t_{I\geq4}$), and average odour intensity as recorded by each assessor at each location are summarised in Table 4 and 5.

Table 4 Sensory tests summary results from Assessor 1

	Odour unpleasantness and descriptor	**Percentage odour time ($t_{I\geq4}$)**	**Average odour intensity (I_{mean})**
Location 1	Neutral, occasional organic smell (very likely to be from horse yard)	3%	1
Location 2	No odour could be detected	0%	0
Location 3	Neutral, occasional smell of grass and gas	0%	0
Location 4	Neutral, occasional smell of gas and organic waste (possibly from horse yard)	10%	1
Location 5	No odour could be detected	0%	0
Location 6	No odour could be detected	0%	0

Table 5 Sensory tests summary results from Assessor 2

	Odour unpleasantness and descriptor	Percentage odour time ($t_{I\geq4}$)	Average odour intensity (I_{mean})
Location 1	Neutral, occasional smell of petrol and horse manure	3%	1
Location 2	No odour could be detected	0%	0
Location 3	Neutral, occasional smell of grass and gas	0%	0
Location 4	Neutral, smell of gas and compost, not continuous	7%	1
Location 5	No odour could be detected	0%	0
Location 6	No odour could be detected	0%	0

It is considered that any odour detected from the sniff test was unlikely to come from the Warton and Clark business. At Location 1 and 4 where odour was detected, it is considered that it came from the horse yard primarily and from road traffic occasionally.

6.4 Odour exposure at the indicative development site

Based on the sensory tests results, as well as the matrix to assess odour exposure as presented in Table 3, the final odour exposure results at the various locations of the indicative development site are summarised in Table 6 below.

	Odour Exposure	
	Assessor 1	Assessor 2
Location 1	Small	Small
Location 2	Negligible	Negligible
Location 3	Negligible	Negligible
Location 4	Small	Small
Location 5	Negligible	Negligible
Location 6	Negligible	Negligible

7 Conclusion

MLM has carried out a dust and odour risk assessment for the indicative residential development on land at Comberton Road, Toft. Despite the best effort made, MLM has not been able to obtain detailed information on the activities at the Warton and Clark business right adjacent to the indicative development site. The assessment was therefore based on the limited information currently available.

Dust

According to the historic meteorological data obtained from the Met Office for the Cambridge area, it is considered that there is <15% of the time within a year which the weather condition could create an environment which should there be any dust emitted from the Warton and Clark site, there is a potential to cause dust nuisance at the indicative residential development.

A risk assessment for such occurrence has been carried out in accordance to the IAQM's 'Guidance on the Assessment of Dust from Demolition and Construction' document. Based on the limited information available, it is considered that the risk of dust soiling impact from the waste handling activities as well as trackout of vehicles entering and leaving the Warton and Clark site on the indicative development is **low to medium**. The risk of human health impact is considered to be **low**.

Odour

The indicative development is considered to be highly sensitive to any odour arising, as the future residents will reasonably expect enjoyment of a high level of amenity and be expected to be present at the development continuously.

The Warton and Clark business is unlikely to handle any putrescible waste, and this cannot be observed on the day of survey as well. Another odour source in the area is the horse stable yard on Comberton Road which is across the roads from the indicative development.

A short-term sniff test was carried out by MLM on 24 March 2015 at the indicative development site at six different locations. The procedures as recommended in the IAQM's 'Guidance on the Assessment of Odour for Planning' document were followed. It is considered that the odour detected from the sniff test was unlikely to come from the Warton and Clark business. At Location 1 and 4 where odour was detected, it is considered that it came from the horse yard primarily and from road traffic occasionally. The odour exposure across the indicative development site, based on the short-term sniff test, is considered to be **small to negligible**.

Overall, based on the information currently available and the results of the site visit, it is considered that dust and odour impacts are not likely to be a significant constraint for residential development at this site.

8 References

1 Guidance on the assessment of dust from demolition and construction. IAQM. February 2014.

2 Guidance on the assessment of odour for planning. IAQM. May 2014.

3 National Planning Policy Framework. Department for Communities and Local Government. March 2012. ISBN: 978-1-4098-3413-7

4 Odour Guidance for Local Authorities. Defra. March 2010

5 The Environmental Permitting (England and Wales) Regulations 2010

6 The Environmental Protection Act 1990