



ODOUR ASSESSMENT

PROPOSED RESIDENTIAL DEVELOPMENT 29 STATION ROAD, PORT TALBOT

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ODOUR ASSESSMENT

Mr MEHMET DIKKI

PROPOSED RESIDENTIAL DEVELOPMENT

**29 STATION RAOD,
PORT TALBOT SA13 1NN**

Prepared By

MUHAMMAD RAJPUTt,

M.Sc, Cenv MIEnvSc, AMIQM

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1 INTRODUCTION

1.1.1 FreshBreeze Environmental Ltd was commissioned, as per instruction, to undertake an Odour Assessment in support of a planning application submitted to Neath Port Talbot County Borough Council (NPTCBC), under reference number P2024/0442, for a proposed residential development located at 29 Station Road, Port Talbot, SA13 1NN.

1.1.2 Planning team at NPTCBC has objected with following comments,

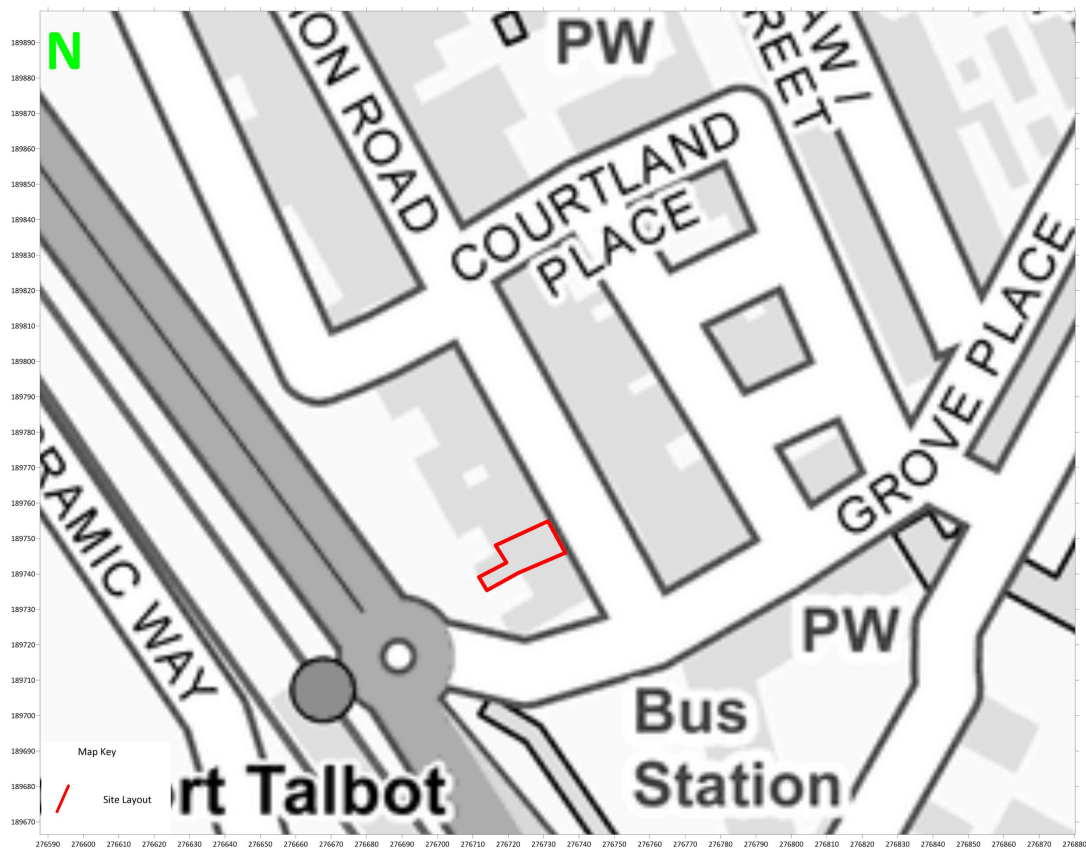
“5- The development authorised by this permission shall not begin until the Local Planning Authority has approved in writing a full assessment of the existing extraction and flue system of the ground floor commercial use and its potential impact upon the occupiers of the hereby approved flats through odours. The submitted scheme shall fully detail all necessary alterations and amendments that would be necessary to ensure that the residential amenity of the flats is not adversely impacted by odours from the ground floor use. The approved scheme shall be fully implemented on site prior to the first beneficial use of any of the approved flats and shall be retained as such thereafter”.

1.1.3 The site is located in the vicinity of a number of existing hot food takeaways. Odour emissions from these premises have the potential to cause loss of amenity for future residents.

1.1.4 An Odour Assessment has therefore been undertaken in order to evaluate baseline conditions at the site and consider its suitability for the proposed end use.

1.2 Site Location and Context

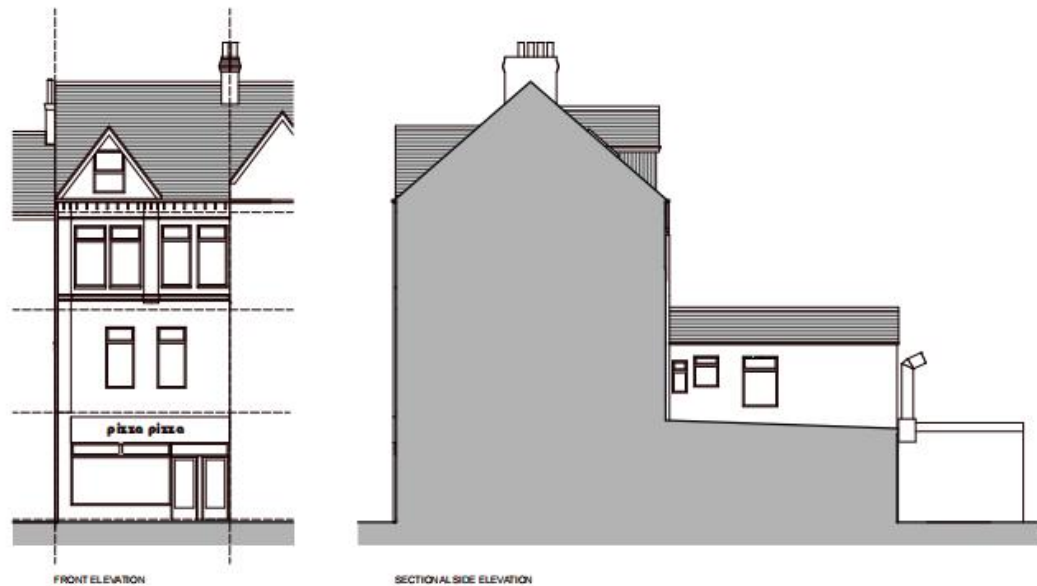
1.2.1 The site is located at 29 Station Road, Port Talbot, at approximate National Grid Reference (NGR): 276730, 189750. **Figure 1** details the location of the site.



- 1.2.2 The proposals comprise the redevelopment of the first, second and third floor of the existing building to provide three residential flats including construction of a rear dormer.

Figure 2 and **Figure 3** detail the proposed site layout plan.





- 1.2.3 The site is located in the vicinity of a number of existing hot food takeaways. These may form a source of odour during normal operation. As such, Neath Port Talbot County Borough Council (NPTCBC) have raised concerns over the potential for loss of amenity for future residents of the development¹. A two stage Odour Assessment has therefore been undertaken to investigate potential odour impacts at the site and consider its suitability for the proposed end-use. This included three Field Odour Surveys and a Risk Assessment. The findings are detailed in the following report.

¹ Decision Document, NPTCBC, 2024.

2 ODOUR BACKGROUND

2.1 Odour Definition

2.1.1 The Institute of Air Quality Management (IAQM) guidance² defines odour as:

"[...] the human olfactory response (perception followed by psychological appraisal) to one, or more often a complex mixture of, chemical species in the air."

2.1.2 The stated definition is considered to be relevant in the context of this assessment.

2.2 Odour Impacts

2.2.1 The magnitude of odour impact depends on a number of factors and the potential for complaints varies due to the subjective nature of odour perception. The **FIDOL** acronym, as outlined below, is a useful reminder of the factors that will determine the degree of odour pollution. These are described by the IAQM³ as follows:

- **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 nine-point scale it is termed the hedonic score; and,
- **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.

2.2.2 It is important to note that even infrequent emissions may cause loss of amenity if odours are perceived to be particularly intense or offensive.

2.2.3 The **FIDOL** factors can be further considered to provide the following issues in regard to the potential for an odour emission to cause a nuisance:

- The rate of emission of the compound(s);
- The duration and frequency of emissions;

² Guidance on the Assessment of Odour for Planning v1.1, IAQM, 2018.

³ Guidance on the Assessment of Odour for Planning v1.1, IAQM, 2018.

- The time of the day that this emission occurs;
- The prevailing meteorology;
- The sensitivity of receptors to the emission i.e. whether the odorous compound is more likely to cause nuisance, such as the sick or elderly, who may be more sensitive;
- The odour detection capacity of individuals to the various compound(s); and,
- The individual perception of the odour (i.e. whether the odour is regarded as unpleasant). This is greatly subjective and may vary significantly from individual to individual. For example, some individuals may consider some odours as pleasant, such as petrol, paint and creosote.

2.3 Odour Legislative Control

- 2.3.1 The main requirement with respect to odour control from premises not controlled under the Environmental Permitting (England and Wales) Regulations (2016) and subsequent amendments, such as restaurants and takeaways, is that provided in Section 79 of Part III of the Environmental Protection Act (1990). The Act defines nuisance as:

"Any dust, steam, odour or other effluvia arising on industrial, trade or business premises and being prejudicial to health or a nuisance."

- 2.3.2 Enforcement of the Act, in regard to nuisance, is currently under the jurisdiction of the local Environmental Health Department, whose officers are deemed to provide an independent evaluation of nuisance. If the Local Authority is satisfied that a statutory nuisance exists, or is likely to occur or happen again, it must serve an Abatement Notice under Part III of the Environmental Protection Act (1990). The only defence is to show that the process to which the nuisance has been attributed and its operations are being controlled according to best practice means.
- 2.3.3 The legislative controls described above were considered as necessary throughout the undertaking of this assessment.

2.4 National Planning Policy

- 2.4.1 The revised *National Planning Policy Framework (NPPF)*, published by the Department for Levelling Up, Housing and Communities in **December 2024**, ammended 7th Febraury 2025 sets out the Government's planning policies for England and outlines how they are to be applied in plan-making and decision-taking.

- 2.4.2 The overarching purpose of the planning system is to contribute to the achievement of *sustainable development*. To this end, the NPPF identifies three interdependent objectives—economic, social, and environmental. Of particular relevance to this odour assessment is the environmental objective, which states:

“c) an environmental objective – to protect and enhance our natural, built and historic environment; including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.”

- 2.4.3 Chapter 12 of the NPPF, *Achieving well-designed and beautiful places*, outlines the Government’s expectations for high-quality design in planning. It notes that:

“Planning policies and decisions should ensure that developments:

[...]

f) create places that are safe, inclusive and accessible and which promote health and well-being, with a high standard of amenity for existing and future users; and where crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion and resilience.”

- 2.4.4 The principles and objectives of the (NPPF)⁴, particularly those relating to environmental protection and amenity, have been fully considered throughout this odour assessment.

2.5 Local Planning Policy

- 2.5.1 The Local Development Plan (LDP)⁵ was adopted by NPTBC in January 2016. Review of the document indicated there are no policies of relevance to the assessment.

“Policy EN 8-Pollution and Land Stability

Proposals which would be likely to have an unacceptable adverse effect on health, biodiversity and/or local amenity or would expose people to unacceptable risk due to the following will not be permitted:

- *Air pollution;*
- *Noise pollution;*
- *Light pollution;*
- *Contamination;*

⁴ National Planning Policy Framework, NPPF, February, 2025.

⁵ Local Development Plan, (LDP) NPTBC, (2011- 2026).

- *Land instability;*
- *Water (including groundwater) pollution.*

Proposals which would create new problems or exacerbate existing problems detailed above will not be acceptable unless mitigation measures are included to reduce the risk of harm to public health, , biodiversity and/or local amenity to an acceptable level.

2.6 Institute of Air Quality Management Guidance

- 2.6.1 The IAQM published the 'Guidance on the Assessment of Odour for Planning'⁶ document on 20th May 2014. This was updated in 2018⁷ and specifically deals with assessing odour impacts for planning purposes, namely potential effects on amenity. The assessment methodology outlined in the guidance has been utilised throughout this report where relevant.

⁶ Guidance on the Assessment of Odour for Planning, v1.1 IAQM, 2018.

⁷ Guidance on the Assessment of Odour for Planning v1.1, IAQM, 2018

3 BASELINE

3.1 Introduction

3.1.1 Existing conditions in the vicinity of the development were identified in order to provide a baseline for assessment. These are detailed in the following Sections.

3.2 Site Description

3.2.1 The proposed development is located at 29 Station Road, Port Talbot. There are a number of hot food takeaways and retail units in the vicinity of the site, including a Casa Pizza restaurant on the ground floor of the property. In addition, residential dwellings are located at first floor level on station Road.

3.3 Potential Odour Sources

Desk Top Study

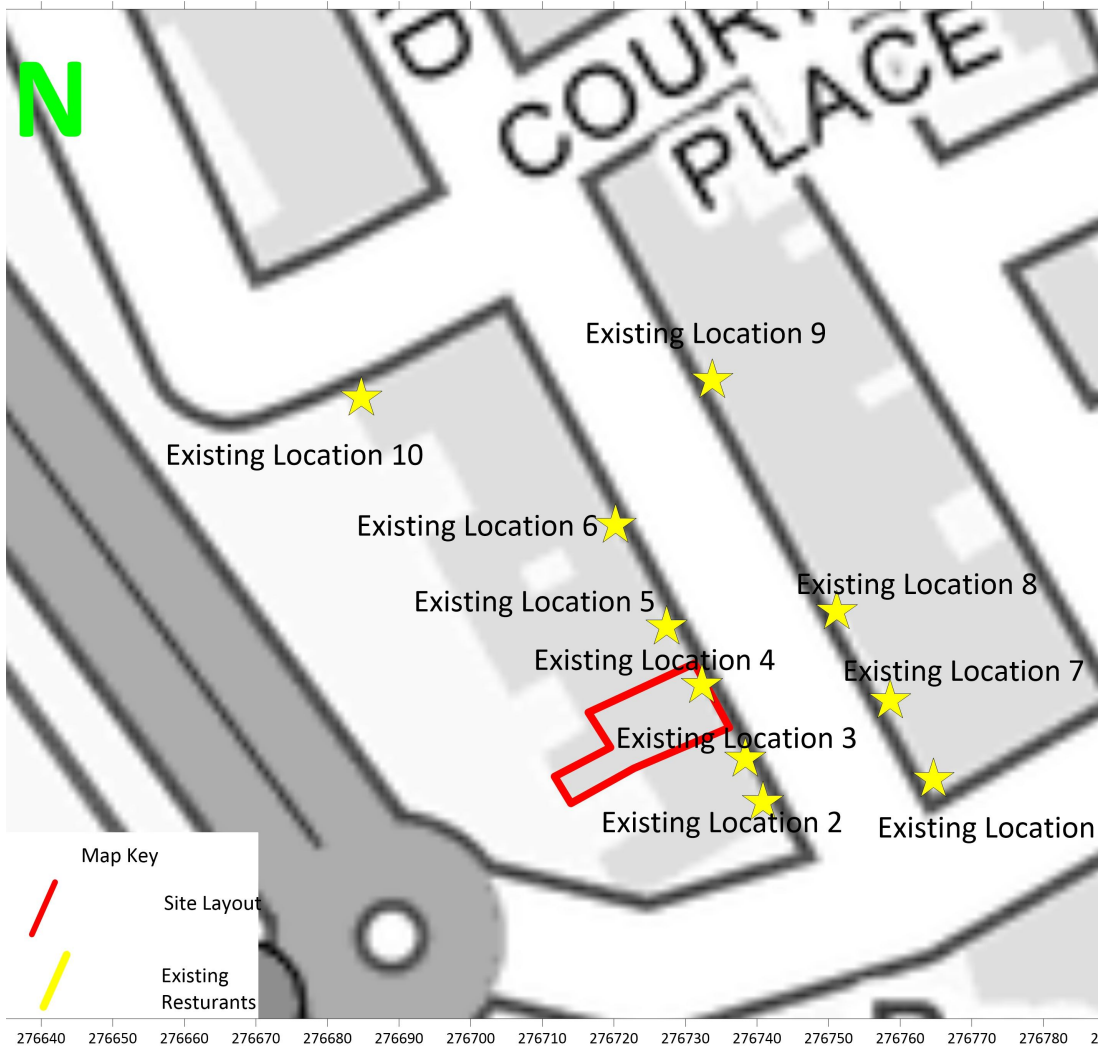
3.3.1 A desk top study was undertaken in order to identify potential odour sources in the vicinity of the site that required specific consideration during the assessment. The identified sources and associated emissions are summarised in **Table 1**.

Table 1: Potential Emission Sources					
Source		Location Relative to Site (m)	Direction from Site	Description of Activities	Potential Emissions
1	Casa Pizza Pizza	Ground Floor	-	Pizza & Burgers Takeaway	Cooked Food Odours
2	Chinese Restaurant	Adjoining	East	Pizza, continental Takeaway	Cooked Food Odours
3	Elachi Express	10	East	Indian Takeaway	Cooked Food Odours
4	Domino's Pizza	15	East	Pizza, Fastfood	Cooked Food Odours
5	Pizza Hut Delivery	35	Northeast	Fast Food Takeaway	Cooked Food Odours
6	Pizza Factory	25	North	Fast Food Takeaway	Cooked Food Odours
7	Istanbul Kebab	20	North	Turkish Takeaway	Cooked Food Odours
8	Bollywood Lounge	15	West	Indian Takeaway	Cooked Food Odours

Table 1: Potential Emission Sources					
10	Milia’s Fish Bar	75	Southeast	Fish & Chips	Cooked Food Odours

3.3.2 As shown in **Table 1**, seven potential odour sources were identified within the vicinity of the site.

3.3.3 **Figure 4** details the source locations.



Site Visit

3.3.4 A site visit was undertaken to visually assess and further investigate the potential odour sources. The findings are summarised in **Table 2**.

Table 2: Potential Odour Sources		
Location		Potential Odour Sources
1	Casa Pizza Pizza	Kitchen air extraction system - Air is extracted from the kitchen located to the rear of the property and exhausted to atmosphere vertically via a dedicated flue. The discharge point is located at second floor level below the ridge of the building, approximately 9m from the windows to the rear of the proposed development. Reference should be made to Figure 4 for a photograph of the flue location Kitchen and entrance doors - There may be potential for fugitive emissions from the kitchen and main entrance to the takeaway when doors are open Operating hours - 17:00 - 22:00 Monday to Sunday
2	Pizza Hut Delivery	Kitchen air extraction system - Air is extracted from the kitchen located to the rear of the property and exhausted to atmosphere horizontally via a dedicated flue. The discharge point is located below the eaves of the building Entrance door - There may be potential for fugitive emissions from the kitchen when door is open Operating hours - 12:00 - 22:00 Monday to Sunday
3	Chinese Restaurant	Kitchen air extraction system - Air is extracted from the kitchen via a dedicated flue. The exact location of the flue could not be determined through visual inspection during the site visit or through use of satellite imagery Kitchen doors and windows - There may be potential for fugitive emissions from the kitchen when doors and windows are opened Operating hours - 12:00 - 22:00 Monday to Saturday, closed Sunday
4	Elachi Express	Kitchen air extraction system - Air is extracted from the kitchen via a dedicated flue. The exact location of the flue could not be determined through visual inspection during the site visit or through use of satellite imagery Kitchen doors and windows - There may be potential for fugitive emissions from the kitchen when doors and windows are opened Operating hours - 09:00 - 22:00 Monday to Sunday
5	Pizza Factory	Kitchen air extraction system - Air is extracted from the kitchen

Table 2: Potential Odour Sources		
		located at the rear of the property and exhausted to atmosphere vertically via a dedicated flue Kitchen doors and windows - There may be potential for fugitive emissions from the kitchen when doors and windows are opened Operating hours - 10:00 - 22:30 Monday to Saturday, 10:00 - 22:00 Sunday
6	Istanbul Kebab	Kitchen air extraction system - Air is extracted from the kitchen located at the rear of the property and exhausted to atmosphere vertically via a dedicated flue Kitchen doors and windows - There may be potential for fugitive emissions from the kitchen when doors and windows are opened Operating hours - 17:00 - 22:30 Sunday to Thursday, 17:00 - 22:00 Friday and Saturday
7	Bollywood Lounge	Kitchen air extraction system - Air is extracted from the kitchen via a dedicated flue. The exact location of the flue could not be determined through visual inspection during the site visit or through use of satellite imagery Kitchen doors and windows - There may be potential for fugitive emissions from the kitchen when doors and windows are opened Operating hours - 17:00 - 22:00 Tuesday to Thursday, 10:00 - 22:00 Friday to Monday
8	Jimmy & Milia's FishBar	Kitchen air extraction system - Air is extracted from the kitchen via a dedicated flue. The exact location of the flue could not be determined through visual inspection during the site visit or through use of satellite imagery Kitchen doors and windows - There may be potential for fugitive emissions from the kitchen when doors and windows are opened Operating hours - 17:00 - 22:00 Tuesday to Thursday, 10:00 - 22:00 Friday to Monday

3.3.5 **Figure 4** details the extract flue location of Casa Pizza Pizza.

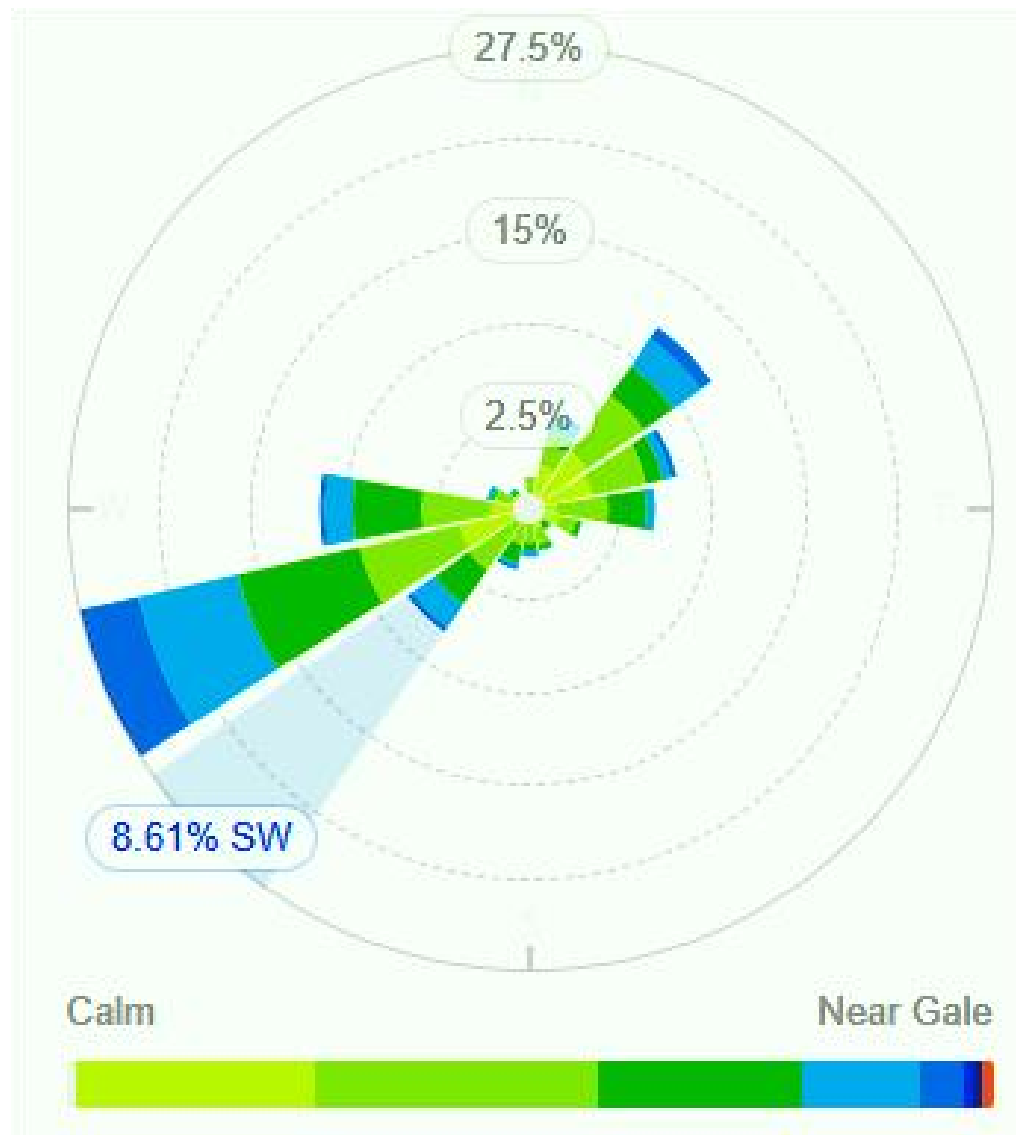


3.4 Meteorological Conditions

- 3.4.1 The potential for atmospheric dispersion of odorous substances to affect nearby sensitive receptors is strongly influenced by meteorological parameters, particularly wind direction and frequency during emission events. To evaluate site-specific prevailing conditions, historical meteorological data was reviewed.
- 3.4.2 Meteorological data was sourced from the North Talbot meteorological station, covering the period from 1st January 2019 to 31st December 2024. potential for atmospheric conditions to impact at sensitive locations depends significantly on the meteorology, particularly wind direction,

during release. In order to consider prevailing conditions at the site, review of historical weather data was undertaken.

- 3.4.3 As shown in Figure 5, the prevailing wind direction at the site is from the south-west. Winds from the north and east are relatively infrequent, which is indicative of conditions throughout the majority of the UK.



- 3.4.4 **Figure 5** shows the wind rose of the meteorological data.

4 METHODOLOGY

- 4.1.1 The proposed development has the potential to expose future residents to any existing odour issues in the vicinity of the site. A two stage assessment has therefore been undertaken in accordance with the IAQM 'Guidance on the Assessment of Odour for Planning'⁸ document, as summarised in the following Sections.

4.2 Field Odour Surveys

Background

- 4.2.1 An adverse effect of odour exposure, such as annoyance or loss of amenity, is subjective and is not something that can be wholly defined or assessed by scientific methods alone. An assessment can therefore be strengthened by including a subjective assessment of prevailing odour conditions by those directly affected or by experienced, trained, observers.
- 4.2.2 Sensory testing techniques use the human nose as the analytical sensor to enable the odour magnitude (as either intensity or concentration), frequency, duration and offensiveness of the odour to be recorded at a particular location at a specific time. This is a sound approach considering that no analytical instrument can currently give a unified measure of a complex mixture of compounds that quantifies it as a whole in the same way that a human experiences odour. Sensory testing also allows the character of the odour to be assessed, which is a great benefit when there are a number of different odour sources.
- 4.2.3 Subjective sensory tests, such as the Field Odour Survey, should not automatically be considered inferior to quantitative ambient monitoring. When carried out to a rigorous, well-designed methodology, the results of such sensory surveys can be expected to be robust and reproducible.

Field Odour Survey Procedure

- 4.2.4 Sensory tests were carried out at twenty two survey locations on 14th March 2025, and 15th March 2025. The survey positions were chosen to provide an indication of conditions throughout the development site and downwind of the identified sources.
- 4.2.5 The survey locations are summarised in **Table 4**.

⁸ Guidance on the Assessment of Odour for Planning v1.1, IAQM, 2018.

Table 4: Survey Locations	
Position	Location Description
1	Second floor level - Window fronting High Street above the Casa Pizza Pizza
2	First floor level - Window fronting High Street above the Casa Pizza Pizza
3	First floor level - Window fronting High Street above Jimmy's Bar
4	Second floor level - Window to rear of property overlooking courtyard
5	First floor level - Window to rear of property above Casa Pizza Pizza
6	Ground floor level - Window to rear of property overlooking courtyard
7	Ground floor level - Car park to rear of property
8	Ground floor level - Entrance of Casa Pizza Pizza

4.2.6 Figure 6 shows the field odour survey locations.



4.2.7 Monitoring was undertaken over a 10-minute period at each position. For each test location, the start time of the observation period, meteorological conditions and the attributes of the odour was recorded as follows:

- The assessor breathed normally, inhaling ambient air samples through the nose every 10-seconds, to give 30 samples over the 10-minute observation period;
- For each sample, the odour intensity was recorded using the scale outlined in **Table 5**.

Table 5: Odour Intensity Scale		
Odour Strength	Intensity Level	Comments
No odour/not perceptible	0	No odour when compared to the clean site
Slight/very weak	1	There is probably some doubt 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
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

- At the end of the observation period at the test location, the odour unpleasantness was noted by classifying it as unpleasant, neutral (neither pleasant nor unpleasant) or pleasant. This assumed that at least some of the 30 samples were of intensity 3 or more (i.e. the odour is at least 'barely recognisable');
- The odour descriptor and meteorological conditions were also noted;
- The pervasiveness/extent of the odour at the test location was assessed by calculating the percentage odour time, $t_{i \geq 4}$, which is the number of samples where odour was recognisable divided by the total number of samples (i.e. 30). Note that 'recognisable odour' is where the odour strength exceeds the recognition threshold and is definitely recognisable by the assessor i.e. the assessor is capable of

definitely identifying its quality/character, which corresponds to an intensity of 4 or more; and,

- The average odour intensity (I_{mean}) over the test period was calculated and the maximum intensity (I_{max}) noted.

4.2.8 The following additional factors were also adopted to safeguard the quality of the sensory assessments:

- The odour assessor would not have undertaken the assessment if they had a cold, sore throat, sinus trouble, etc;
- The odour assessor was not hungry or thirsty;
- The odour assessor did not work within half an hour of the end of their last meal;
- The odour assessor did not smoke or consume strongly flavoured food or drink, including coffee, for at least half an hour before the field odour survey was carried out, or during the survey;
- The odour assessor did not consume confectionary or soft drinks for at least half an hour before the field odour survey was carried out, or during the survey;
- Scented toiletries, such as perfume/aftershave were not used on the day of the field odour survey; and,
- The vehicle used during the field odour survey did not contain any deodorisers.

Odour Exposure

4.2.9 Following completion of the Field Odour Surveys, the matrix outlined in **Table 6** was utilised to determine the level of odour exposure at each monitoring location.

Table 6: Odour Exposure					
Average Intensity (I_{man})	Percentage Odour Time ($t_{I \geq 4}$)				
	$\leq 10\%$	11% to 20%	21% to 30%	31% to 40%	$\geq 41\%$
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

4.2.10 It should be noted that I_{mean} was rounded to the nearest whole number.

4.2.11 The following overriding considerations also affect the scoring of the odour annoyance impact:

- If $I_{\text{mean}} = 0$, then the odour effect can for practical purposes be considered **negligible**; and,
- If $I_{\text{mean}} = 1$ but $t_{\geq 4} = 0\%$, then the odour effect can for practical purposes be considered **negligible**.

Significance of Odour Effect

4.2.12 Following the determination of the odour exposure level, the significance of effect was determined through the interaction with receptor sensitivity, as outlined in **Table 7**.

Table 7: Odour Receptor Sensitivity	
Sensitivity	Description
High	Surrounding land where: Users can reasonably expect enjoyment of a high level of amenity; and, People would reasonable be expected to be present here continuously, or at least regularly for extended periods, as part of the normal pattern of use of the land Examples may include residential dwellings, hospitals, schools/education and tourist/cultural
Medium	Surrounding land where: Users would expect to enjoy a reasonable level of amenity, but would not reasonably expect to enjoy the same level of amenity as in their home; or, People would not reasonably be expected to be present here continuously or regularly for extended periods as part of the normal patterns of use of the land Examples may include places of work, commercial/retail premises and playing/recreation fields
Low	Surrounding land where: The enjoyment of amenity would not reasonably be expected: or, There is transient exposure, where the people would regularly be expected to be present only for limited periods of time as part of the normal pattern of use of the land Examples may include industrial use, farms, footpaths and roads

4.2.13 The assessment matrix is provided in **Table 8**.

Table 8: Odour Effect Significance			
Overall Odour Exposure	Receptor Sensitivity		
	Low	Medium	High

Table 8: Odour Effect Significance			
Overall Odour Exposure	Receptor Sensitivity		
	Low	Medium	High
Very Large	Substantial	Substantial	Substantial
Large	Moderate	Moderate	Substantial
Medium	Slight	Slight	Moderate
Small	Negligible	Negligible	Slight

4.3 Risk Assessment

Background

4.3.1 The basic concept of risk assessment is that the overall risk depends on the probability of an event occurring together with the likely consequences if it was to occur. For odour assessments the probability can be considered as the likelihood of exposure (impact), and the consequence can be considered to be the effect on the receptor if that exposure (impact) took place. These two facets can be summarised by the source-pathway-receptor-concept.

4.3.2 Behind the source-pathway-receptor concept, is the fundamental relationship:

$$\text{Effect} = \text{Dose} \times \text{Response}$$

4.3.3 In the specific case of odour assessments, the dose can be considered equivalent to the odour exposure, or impact. This will be determined by FIDO of the FIDOL factors. The effect is the result of the changes on specific receptors (people in the case of odour) taking into account their sensitivities (i.e. responsiveness to odour), the L (location) in FIDOL is to categorise the sensitivity.

4.3.4 The IAQM guidance states that a qualitative risk-based approach is appropriate for:

- Screening of odour impacts;
- Development of proposals likely to have a low risk of adverse effects;
- Situations where there is insufficient information to carry out detailed predictive dispersion modelling;
- Situations where the information has wide uncertainties and its use as input to a detailed predictive dispersion model would be at best a waste of time, money and effort, or worse, would lead to an illusory and false impression of accurate and precision in the numbers generated; and,
- When the model is not able to properly represent the reality of the situation being assessed, e.g. if the odour effects are likely to be significantly influenced by accidental, unexpected, or unknown releases. In such instances a qualitative estimate may be more appropriate, on the basis that it is better to be broadly correct than precisely wrong.

4.3.5 It is considered that the third, fourth and fifth of these criteria are met for this project. As such, a qualitative assessment methodology was deemed appropriate.

Risk Assessment Procedure

4.3.6 The first step in the assessment is to estimate the odour generating potential of the site activities. This is termed the Source Odour Potential, which takes into account three factors:

- The scale (magnitude) of the release from the odour source, taking into account the effectiveness of any odour control or mitigation measures that are already in place. This involved judging the relative size of the release rate after mitigation and taking account of any pattern of release (e.g. intermittency);
- How inherently odorous the emission is. In some cases it may be known whether the release has a low, medium, or high Odour Detection Threshold (ODT). This is the concentration at which an odour becomes detectable to the human nose. In most instances the odours released by a source will be a complex mixture of compounds and the detectability will not be known. However, for some industrial processes the odour will be due to one or a small number of known compounds and the detection thresholds will be a good indication of whether the release is highly odorous or mildly odorous; and,
- The relative pleasantness/unpleasantness of the odour.

4.3.7 Using the example risk ranking in **Table 9**, the Source Odour Potential can be categorised as **small**, **medium** or **large**.

Table 9: Source Odour Potential	
Source Odour Potential	Comments
Large	Magnitude - Larger Environmentally Permitted processes of odorous nature or large Sewage Treatment Works (STWs); materials usage of hundreds of thousands of tonnes/m³ per year; area sources of thousands of m². The compounds involved are very odorous (e.g. mercaptans), having very low ODTs where known Unpleasantness - processes classed as "Most offensive" in Environment Agency) EA Guidance H4⁹; or (where known) compounds/odours having unpleasant (-2) to very unpleasant (-4) hedonic score Mitigation/control - open air operation with no containment, reliance solely on good management techniques and best practice
Medium	Magnitude - smaller Environmentally Permitted processes or small STWs; materials usage thousands of tonnes/m³ per year; area sources of hundreds of m². The compounds involved are moderately odorous

⁹ H4: Odour Management, EA, 2011.

Table 9: Source Odour Potential	
Source Odour Potential	Comments
	Unpleasantness - processes classed in EA guidance H4 as "Moderately offensive"; or (where known) odours having neutral (0) to unpleasant (-2) hedonic score Mitigation/control - some mitigation measures in place, but significant residual odour remains
Small	Magnitude - falls below Environmental Permit B threshold; materials usage hundreds of tonnes/m³ per year; area sources of tens m². The compounds involved are mildly odorous, having relatively high ODTs where known Unpleasantness - processes classed as "Less offensive" in EA Guidance H4; or (where known) compounds/odours having neutral (0) to very pleasant (+4) hedonic score Mitigation/control - effective, tangible mitigation measures in place leading to little or no residual odour

4.3.8 The next step is to estimate the effectiveness of the pollutant pathway as the transport mechanism for odour through the air to the receptor, versus the dilution/dispersion in the atmosphere. Any factor that increases dilution and dispersion of the plume as it travels from source to receptor will reduce the concentration at the end point, and hence reduce exposure. Important factors for consideration are:

- The distance between sensitive receptors and the odour source;
- Whether receptors are downwind with respect to the prevailing wind direction. Odour episodes often tend to occur during stable atmospheric conditions with low wind speed, which gives poor dispersion and dilution. Receptors close to the source in all directions can be affected under these conditions. When circumstances are not calm, it will be the downwind receptors that are affected. As such, receptors that are downwind with respect to the prevailing wind direction tend to be at a higher risk of odour impact;
- The effectiveness of the point of release in promoting good dispersion e.g. releasing emissions from a high stack will increase the pathway, dilution and dispersion; and,
- The topography and terrain between the source and receptor. The presence of topographical features such as hills and valleys, or urban terrain features such as buildings, can affect air flow and therefore increase, or inhibit, dispersion and dilution.

- 4.3.9 Using the example risk ranking in **Table 10**, the pollutant pathway from source to receptor can be categorised as **ineffective**, **moderately effective** or **highly effective**.

Table 10: Pathway Effectiveness	
Pathway Effectiveness	Comments
Highly effective	Distance - receptor is adjacent to the source/site; distance well below an official set-back distances Direction - high frequency of winds from source to receptor, or qualitatively, receptors downwind of source with respect to prevailing winds Effectiveness of dispersion/dilution - open processes with low-level releases, e.g. lagoons, uncovered effluent treatment plant, landfilling of putrescible wastes
Moderately effective	Distance - receptor is local to the source Where mitigation relies on dispersion/dilution - releases are elevated, but compromised by building effects
Ineffective	Distance - receptor is remote from the source; distance exceeds any official set back distances Direction - low frequency of winds from source to receptor, or, qualitatively, receptors upwind of source with respect to prevailing wind Where mitigation relies on dispersion/dilution - releases are from high level (e.g. stacks, or roof vents greater than 3m above ridge height) and are not compromised by surrounding buildings

- 4.3.10 The sensitivity of the receiving receptor is defined based on the criteria shown in **Table 7**.
- 4.3.11 The estimates of Source Odour Potential and Pathway Effectiveness are considered together to predict the risk of odour exposure (impact) at the receptor location, as shown by the matrix in **Table 11**.

Table 11: Risk of Odour Exposure			
Pathway Effectiveness	Source Odour Potential		
	Small	Medium	Large
Highly Effective	Low	Medium	High
Moderately Effective	Negligible	Low	Medium
Ineffective	Negligible	Negligible	Low

- 4.3.12 The final step is to determine the significance of odour effect at the specified receptor location through the interaction between sensitivity and risk, as outlined in **Table 12**.

Table 12: Significance of Odour Effect			
Risk of Odour Exposure	Receptor Sensitivity		
	Low	Medium	High
High	Slight	Moderate	Moderate
Medium	Negligible	Slight	Moderate
Low	Negligible	Negligible	Slight
Negligible	Negligible	Negligible	Negligible

4.4 Overall Odour Significance

- 4.4.1 Following completion of the Field Odour Surveys and Risk Assessment, the IAQM guidance¹⁰ states that an assessment must reach a conclusion on the likely significance of the predicted impact. Where the overall effect is **moderate** or **substantial**, the effect is likely to be considered **significant**, whilst if the effect is **slight** or **negligible**, the impact is likely to be considered **not significant**. It should be noted that this is a binary judgement of either it is **significant** or it is **not significant**. This has been considered to determine the overall significance of potential odour effects at the proposed development site.
- 4.4.2 The IAQM guidance recognises that the assessment of odour requires some degree of professional judgement¹¹. Qualitative methodologies such as those utilised within this report provide guidance for assessing potential impacts. However, professional judgement should be exercised in order to take account of the specific details which are unique to each development. This has been considered as necessary throughout the assessment.

¹⁰ Guidance on the Assessment of Odour for Planning v1.1, IAQM, 2018.

¹¹ Guidance on the Assessment of Odour for Planning v1.1, IAQM, 2018.

5 ASSESSMENT

5.1 Field Odour Surveys

Field Odour Survey 1 - 16th July 2021

- 5.1.1 Field Odour Survey 1 was undertaken between 1800hrs and 1950hrs on 14th March 2025. The results are summarised in **Table 13**.

Table 13: Field Odour Survey 1 - Results						
Position	t_{≥4} (%)	I_{mean}	I_{max}	Unpleasantness	Odour Description	Notes
1	10	1	3	Pleasant	Cooked food, fried chicken	-
2	0	1	3	Pleasant	Cooked food, fried chicken	-
3	0	1	2	N/A	Cooked food, sweet	-
4	0	1	3	Pleasant	Cooked food, fried chicken	-
5	0	0	2	N/A	Cooked food	-
6	0	1	3	Neutral	Cooked food, fried chicken	-
7	0	1	3	Pleasant	Cooked food, fried chicken, garlic	-
8	0	0	1	N/A	N/A	-

- 5.1.2 The meteorological conditions during the monitoring were sunny dry and later cloudy. The temperature was approximately 15°C. The wind direction was from the north-east at location 7 and the east at location 8, with a wind speed rating 1 on the Beaufort scale. At the remaining six locations, the wind speed was too low to determine a specific direction.

Field Odour Survey 2 - 23rd July 2021

- 5.1.3 Field Odour Survey 2 was undertaken between 1730hrs and 2100hrs on 15th March 2025. The results are summarised in **Table 14**.

Table 14: Field Odour Survey 2 - Results						
Position	t_{≥4} (%)	I_{mean}	I_{max}	Unpleasantness	Odour Description	Notes
1	0	1	3	Pleasant	Cooked food, fried chicken	-
2	0	0	2	N/A	Cooked food	-
3	0	1	2	N/A	Cooked food	-
4	4	2	3	Pleasant	Charcoal, cooked food, fried chicken	No visible smoke or active

Table 14: Field Odour Survey 2 - Results						
						barbecue
5	9	1	3	Neutral	Charcoal, fried chicken	No visible smoke or active barbecue
6	0	1	3	Pleasant	Charcoal, cooked food, fried chicken	No visible smoke or active barbecue
7	0	1	2	N/A	Charcoal	No visible smoke or active barbecue
8	0	1	2	N/A	Cooked food	Door to Casa Pizza Pizza closed

- 5.1.4 The meteorological conditions during the monitoring were dry and cloudy. The temperature was approximately 14°C. The wind direction was from the east at location 7 and the north at location 8, with wind speeds rating between 1 and 2 on the Beaufort scale. At the remaining six locations, the wind speed was too low to determine a specific direction.

Odour Exposure and Significance

- 5.1.5 Following completion of the Field Odour Surveys, odour exposure at each of the monitoring locations was determined. The exposure results for the Field Odour Surveys are summarised in **Table 16**.

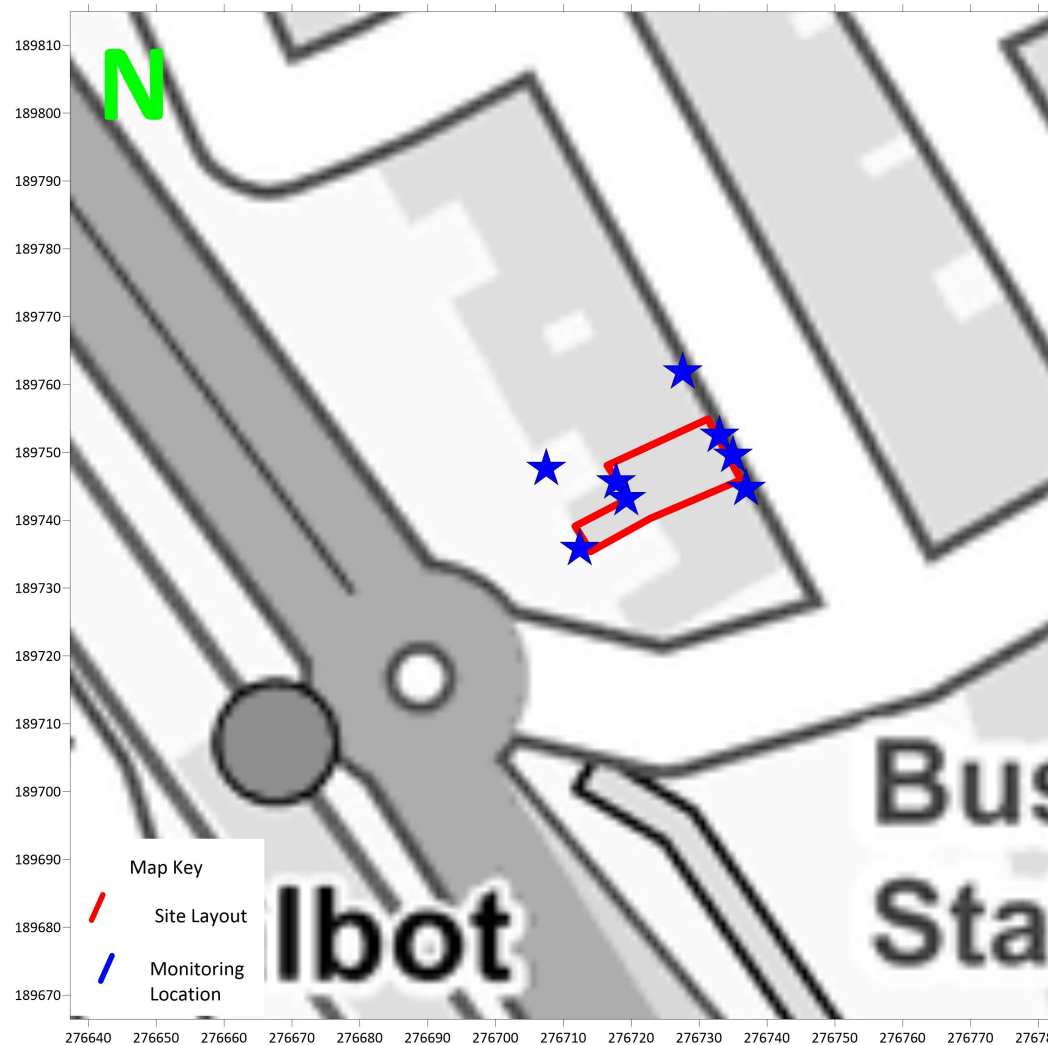
Table 16: Odour Exposure Risk			
Position	Odour Exposure Risk		
	Field Odour Survey 1	Field Odour Survey 2	Field Odour Survey 3
1	Small	Negligible	Negligible
2	Negligible	Negligible	Negligible
3	Negligible	Negligible	Negligible
4	Negligible	Small	Small
5	Negligible	Small	Small
6	Negligible	Negligible	Small
7	Negligible	Negligible	Negligible
8	Negligible	Negligible	Negligible

- 5.1.6 As shown in **Table 16**, the odour exposure risk ranged from **negligible** to **small** during Surveys 1 and 2 and **negligible** to **small** during Survey 3.

- 5.1.7 The significance of the Survey results was determined in accordance with the criteria outlined in **Table 8**. The proposed development includes residential units and is therefore considered to be of **high** sensitivity.
- 5.1.8 The significance of the odour exposure results for the Field Odour Survey is summarised in **Table 17**.

Table 17: Field Odour Surveys - Odour Significance			
Position	Odour Significance		
	Field Odour Survey 1	Field Odour Survey 2	Field Odour Survey 3
1	Slight	Negligible	Negligible
2	Negligible	Negligible	Negligible
3	Negligible	Negligible	Negligible
4	Negligible	Slight	Slight
5	Negligible	Slight	Slight
6	Negligible	Negligible	Slight
7	Negligible	Negligible	Negligible
8	Negligible	Negligible	Negligible

- 5.1.9 As shown in **Table 17**, impacts ranged from **negligible** to **slight** during Surveys 1 and 2 and **negligible** to **Slight** during Survey 3.
- 5.1.10 **Figure 7** shows a graphical representation of the findings.



5.2 Risk Assessment

5.2.1 The first step was to classify the source odour potential for each source identified in **Table 1**. This was determined to be **small** for all odour sources due to the following:

- The premises are not controlled under the Environmental Permitting (England and Wales) Regulations (2016);
- Cooked food odours would be considered "less offensive", in accordance with EA guidance H4¹²;
- Most cooked food odours have a positive hedonic score; and,
- The premises are not operated constantly.

¹² H4: Odour Management, EA, 2011.

5.2.2 The pathway effectiveness was subsequently defined between the source and the development based on the distance between the premises and the site boundary and the prevailing wind direction in relation to the proposals. This is summarised in **Table 18**.

Table 18: Odour Pathway Effectiveness			
Source		Source Pathway Effectiveness	Justification
1	Casa Pizza Pizza	Highly effective	The development is located adjacent to the source, above Casa Pizza Pizza Low frequency of winds from dispersion stack to receptor less than (22.2%) Cooking processes take place within an enclosed kitchen with air extraction but there may be the potential for fugitive odour release Extraction flue releases emissions vertically below the ridge of the surrounding buildings. As such, building effects may compromise dispersion of odours away from the development
2	Pizza Hut Delivery	Ineffective	The development is local to the source, proposed dwellings are situated approximately 30m to the north Low frequency of winds from source to receptor (8.9%) Cooking processes take place within an enclosed kitchen but there may be the potential for fugitive odour release
3	Chinese Restaurant	Highly effective	The development is located adjacent to the source High frequency of winds from source to receptor (27.7%) Cooking processes take place within an enclosed kitchen but there may be the potential for fugitive odour release
4	Elachi Express	Ineffective	The development is local to the source, proposed dwellings are situated approximately 10m to the west Low frequency of winds from source to receptor (27.3%) Cooking processes take place within an enclosed kitchen but there may be the potential for fugitive odour release
5	Pizza Factory	Ineffective	The development is local to the source, proposed dwellings are situated approximately 25m to the north-west Low frequency of winds from source to receptor (10.8%) Cooking processes take place within an enclosed kitchen but there may be the potential for fugitive odour release
6	Istanbul	Ineffective	The development is local to the source, proposed dwellings are situated approximately 40m to the north-

Table 18: Odour Pathway Effectiveness			
	Kebab		west Low frequency of winds from source to receptor (10.8%) Cooking processes take place within an enclosed kitchen but there may be the potential for fugitive odour release
7	Bollywood Lounge	Moderately effective	The development is local to the source, proposed dwellings are situated approximately 25m to the east Moderate frequency of winds from source to receptor (19.6%) Cooking processes take place within an enclosed kitchen but there may be the potential for fugitive odour release

5.2.3 The above information has been used to assess odour risk from the identified sources.

This is summarised in **Table 19**.

Table 19: Odour Risk Assessment						
	Source	Source Odour Potential	Pathway Effectiveness	Exposure Risk	Sensitivity of Receptor	Effect Significance
1	Casa Pizza Pizza	Small	moderate effective	Low	High	Negligible
2	Pizza Hut Delivery	Small	Ineffective	Negligible	High	Negligible
3	Chinese Restaurant	Small	moderately effective	Low	High	Slight
4	Elachi Express	Small	Moderately effective	Negligible	High	Negligible
5	Pizza Factory	Small	Ineffective	Negligible	High	Negligible
6	Istanbul Kebab	Small	Ineffective	Negligible	High	Negligible
7	Jimmy/ Bollywood Lounge	Small	Moderately effective	Negligible	High	Negligible

5.2.4 As shown in **Table 19**, the predicted odour effect significance is **slight** as a result of emissions from Chinese restaurant and **negligible** as a result of releases from the six remaining sources.

6 DISCUSSION

6.1 Field Odour Survey

- 6.1.1 A range of odours were detected during the Field Odour Surveys, as shown in **Table 13** to **Table 15**. Some of these odours resulted in impacts at the survey locations. This is discussed in the following Section.
- 6.1.2 General food-related odours were consistently noted during all survey periods. In several instances, the precise origin of the odours could not be confidently determined due to the simultaneous operation of multiple takeaway outlets in the vicinity.
- 6.1.3 Fried chicken odours were detected during all surveys. These odours resulted in **slight** impacts at location 3 during Survey 1 and Survey 2. It is important to note that the monitoring positions were situated downwind and in close proximity to a neighbouring extract flue during the survey periods. Given these conditions, it is considered likely that the observed impacts are attributable to emissions from other neighbouring food premises, rather than from the proposed Casa Pizza Pizza development.
- 6.1.4 Odours associated with charcoal and smoke from a nearby barbeque were detected intermittently at location 3 during Survey 2. Although these odours may have contributed to impacts detected at this position, fried chicken odours were detected more frequently over the Survey period. As such, charcoal and smoke odours are not considered to have contributed significantly to the resultant impacts at this location.
- 6.1.5 Meteorological conditions during all survey periods provided a worst-case assessment of exposure as low wind speed causes limited dispersion and dilution of emissions. As a result, all receptors close to the source are susceptible to odour impacts, as stated in IAQM guidance¹³. Which emphasises increased odour sensitivity under such conditions. Furthermore, the proposed development was positioned downwind of nearby extract flues during the monitoring events, rendering the recorded data a robust representation of potential worst-case odour exposure at the site.
- 6.1.6 It is anticipated that exposure to cooking odours is only likely to occur at times when the relevant premises are open. As the Field Odour Surveys were undertaken during operational hours, the findings are considered to be indicative of the odour climate during the periods in which the establishments are open.

¹³ Guidance on the Assessment of Odour for Planning v1.1, IAQM, 2018.

6.2 Risk Assessment

6.2.1 The odour Risk Assessment indicated that the predicted odour effect significance ranged between **negligible** and **slight** as a result of emissions from the identified sources. This conclusion is due to a number of considerations including the following:

- The limited distance between the identified sources and the proposed development;
- The relatively inoffensive nature of odours emitted from the premises;
- The non-continuous operation of the takeaways;
- The frequency of winds from the sources towards the development; and,
- The predicted level of dilution and dispersion of odour emissions from the sources.

6.3 Best Practice Measures

6.3.1 The results of the Odour Surveys and Risk Assessment identify the potential for odour effects to the rear of the development. In order to protect the amenity of future residents, a mitigation strategy has been proposed. This is described in the following Section.

6.3.2 It is important to note that the odour readings referenced were obtained during a particularly busy weekend, commonly referred to as a "Rugby weekend" which is recognised locally as a peak period of activity. While such conditions do not typically represent baseline or average scenarios, the data was collected to reflect a potential worst-case situation. It should also be highlighted that this was an isolated occurrence and does not reflect the routine environmental conditions in the area.

6.3.3 As indicated by the Field Odour Survey results, the proposed residential dwellings at the rear of the development are considered to be most at risk from odour impacts. This is due to the close proximity of the units to the existing extraction point nearby kitchen restaurants and therefore the limited distance between several sources and receptor to allow effective dilution. As such, it is recommended that mitigation is provided to ensure potential exposure is reduced to a minimum. This should be provided in the form of an extension to the extract flue to above the ridge of the building and removal of the cowl from the extract flue.

6.3.4 The proposed extension to the extract flue will ensure that odour emissions are released above the level of the second floor window, rather than at the same level. This will allow emissions to disperse above the building. Removal of the cowl from the extract flue will

aid odour emissions to disperse vertically. These measures will help improve emission dispersion and reduce impacts at the proposed residential units.

6.4 Summary

- 6.4.1 Two Field Odour Surveys were undertaken in accordance with the IAQM methodology. The results indicated odour exposure ranging between **negligible** and **medium**. This is predicted to result in **negligible** to **slight** effects at the proposed development site.
- 6.4.2 The risk of potential odour effects at the development site were also assessed using the IAQM methodology. This included consideration of the source odour potential, pathway effectiveness and receptor sensitivity. The results of the assessment indicated the predicted odour effect significance was **slight** as a result of emissions from location 4 and **negligible** as a result of the remaining sources.
- 6.4.3 The results of the Field Odour Surveys and Risk Assessment identified the potential for odour effects to the rear of the development site. As such, a best practice measures have been proposed in order to reduce impacts to an acceptable level.
- 6.4.4 Taking into consideration the results of the Field Odour Surveys, Risk Assessment and specified mitigation, the overall residual effect of odour on the proposed development is considered to be **not significant**.

7 CONCLUSIONS

- 7.1.1 FreshBreeze Environmental Ltd was commissioned, as per instruction, to undertake an Odour Assessment in support of a discharge condition reference number P2024/0442, for a proposed residential development located at 29 Station Road, Port Talbot, SA13 1NN with following comments from planning team,

“5- The development authorised by this permission shall not begin until the Local Planning Authority has approved in writing a full assessment of the existing extraction and flue system of the ground floor commercial use and its potential impact upon the occupiers of the hereby approved flats through odours. The submitted scheme shall fully detail all necessary alterations and amendments that would be necessary to ensure that the residential amenity of the flats is not adversely impacted by odours from the ground floor use. The approved scheme shall be fully implemented on site prior to the first beneficial use of any of the approved flats and shall be retained as such thereafter”.

- 7.1.2 Two Field Odour Surveys were undertaken in accordance with the IAQM methodology. The results indicated odour exposure ranging between **negligible** and **medium**. The resultant effects were classified as **negligible** to **slight** at the proposed development.
- 7.1.3 The risk of potential odour effects at the development was also assessed using the IAQM methodology. This included consideration of the source odour potential, pathway effectiveness and receptor sensitivity. The results of the assessment indicated the odour effect significance ranged between **negligible** as a result of emissions from identified sources in the vicinity of the site.
- 7.1.4 The results of the two stage Odour Assessment indicated the potential for odour effects to the rear of the development site. As such, suitable best practice measures in the form of an extension to the extract flue in design was specified for the emission extraction serving existing pizza bar. This should ensure future residents are not exposed to unacceptable levels of odour.
- 7.1.5 Based on the results of the staged assessment, the overall odour effects on the site are considered to be **not significant**, subject to the inclusion of the specified mitigation. As such, odour is not considered a constraint to planning consent for the development.

APPENDIX A - REPORT LIMITATIONS

This Report is presented to Mr Mehmet dilki and may not be used or relied on by any other person or by the client in relation to any other matters not covered specifically by the scope of this report.

Notwithstanding anything to the contrary contained in the report, Freshbreeze Environmental Ltd is obliged to exercise reasonable skill, care and diligence in the performance of the services required by Mr Mehmet dilki and Freshbreeze Environmental Ltd (FBE) shall not be liable except to the extent that it has failed to exercise reasonable skill, care and diligence, and this report shall be read and construed accordingly.

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The conclusions and recommendations contained in this report are based upon information provided by others and upon the assumption that all relevant information has been provided by those parties from who it has been requested and that such information is accurate. Information obtained by FBE has not been independently verified by FBE unless otherwise stated in the report and should be treated accordingly.

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APPENDIX B - GLOSSARY

Maximum Odour Intensity ($I_{\max}$)	The maximum odour intensity recorded during a Survey
Average Odour Intensity (I_{mean})	The average odour intensity recorded during a Survey
Percentage Odour Time ($t_{I>4}$)	The number of times where an odour is recognisable during a Survey, divided by the total number of samples