

Frontier Property Ltd

Regal Buildings, Market
Street, Eastleigh

Odour Appraisal

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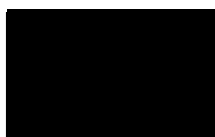
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Odour Appraisal

Contents

1	Introduction	1
2	Odour – Background and Guidance	3
2.1	Guidance	3
2.1.1	Defra Guidance	3
2.1.2	IAQM Guidance	7
2.2	Regulation	9
3	Appraisal	10
3.1	Site location and surroundings	10
3.2	Odour Assessment for Each Source	11
3.2.1	Coffee 1	11
3.2.2	Istanbul Grill	11
3.2.3	Oven Door Bakery	13
3.2.4	Smith’s Butchers	13
3.2.5	Oishii Ramen and Bubble Tea	13
3.2.6	Popz Tea	14
3.2.7	Kokoro	14
3.2.8	Costa Coffee	14
3.3	Sniff Testing	15
3.4	Odour Sources within Regal Buildings	15
4	Conclusions	16

Approved for Issue



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1 Introduction

Michael Bull and Associates Ltd (MBAL) has been commissioned by Frontier Property Ltd to undertake an appraisal to assess the potential risk of adverse odours in connection with a development at Regal Buildings, Market Street, Eastleigh. This development has received planning consent (DC/24/97225) from Eastleigh Borough Council (EBC) , and Condition 5 of the consent states:

“No works to the exterior of the building shall start until a Noise and Odour Assessment has been submitted to and approved in writing by the Local Planning Authority. This assessment shall include details of measures to protect future residential occupiers from noise and odour disturbance resulting from neighbouring uses, together with potential retail/commercial uses within the building itself. No residential units shall be occupied until these agreed measures have been installed/implemented in full and shall be maintained throughout the lifetime of the development”.

An air quality and odour assessment was prepared for the development by Air Quality Consultants (AQC) in August 2022 which provided some information on odours. However, when reviewing this document to discharge the Condition, the EBC EHO commented in an email (dated 28 May 2024) the following:

“The submitted report is dated 3/8/2022 and so I imagine was an original submission with the application and largely covers air quality. It does make reference to a desk top assessment of the odour risk from neighbouring cooking establishments.

In respect of the outstanding matter regarding odour from cooking in the vicinity and looking at the history on the files I find the following:

1. EH commented on this report on 30/8/24 as follows:

‘We are reviewing the air quality assessment report and have concern the potential odour and fumes impact is approached by a desktop review only. Please advise the applicant to carry out subjective observations onsite by a qualified assessor. We advise to include for premises emissions via vents, stacks, open doors and back of house use including waste collected for disposal. This might have implication for the building envelope design and so therefore also the ventilation system. We note this may be via air source heat pumps.’

2. The submission in DC/24/97225 includes a proposal for a new low level cooking extract system below the residential windows not included in the original drawings that have consent. I understand you may feel such a change may require further consent. However, as matters stand the historical air quality report re-submitted does not anticipate such a proposal and the impact of this on odour emission has not been assessed and no mitigation measures have been proposed.

So looking forward my observations are:

1. You should not discharge the condition until matters relating to any new cooking extract system associated with the building have either been removed from the submission or are

supported by an assessment and proposed mitigation that should follow the EMAQ guidance. As advised previously I consider that a low level terminus to such a system is ill advised.

2. Regarding the existing neighbouring cooking establishments, it is clear that EH's advice in 2022 was that an in person assessment on the ground should be carried out to verify that odour from the neighbouring commercial units do not pose a risk on the basis that if they did, this might have implications for the ventilation of the building. I assume the thinking here might have been to provide an alternative system to openable windows to ventilate the flats with the air intakes remote from the cooking odour sources. Such a system might protect the indoor amenity if windows remained closed or sealed. If one is to pursue this thinking further, an onsite assessment during the operational times of the neighbouring hot food premises would be required".

In relation to the above, the reference to a new extract system for a restaurant in Regal Buildings was in the noise assessment prepared by DAA Group and dated 13 March 2024. A restaurant does not appear in any of the planning drawings submitted. MBAL has clarified this matter with Frontier Property Ltd and they have confirmed that there are no plans for restaurant use for any of the units. Should such a proposal come forward, the tenants would have to apply for a new planning permission for an appropriate extract system if required. The application is for four commercial units on the ground floor with no defined use.

This report therefore only responds to the requirement for a further odour assessment to be carried out by a qualified assessor. The majority of the possible odour sources in the area relate to commercial kitchens (i.e. restaurant and cafés) although dry cleaning and some food retail has previously been identified as possible sources in the previous report and correspondence with EBC.

This report provides therefore provides background detail on odours, the approaches used for the assessment of odours from commercial kitchens and provides the results of the odour appraisal for this proposed development using methods outlined in guidance from the Department of Environment, Food and Rural Affairs (Defra) and the Institute of Air Quality Management (IAQM). It uses these methods and on-site sniff testing to determine the likelihood of unacceptable odour conditions for future residents of Regal Buildings.

The author of this report is Dr Michael Bull who was the chair of group that produced the Institute of Air Quality Management (IAQM) guidance on the assessment of odours for planning. He is an air quality and odour consultant with over 37 years of experience, has published and spoken widely on air quality and odour matters and was a contributing author to the book, *Designing with Smells*, published by Routledge in 2017.

2 Odour – Background and Guidance

2.1 Guidance

2.1.1 Defra Guidance

Defra produced guidance on the Control on Odour and Noise from Commercial Kitchen Exhaust Systems in January 2005¹ and Odour Guidance for Local Authorities in 2010². These documents were withdrawn in September 2017 and there is no indication that it will be replaced or updated. Some of the content of this guidance remains useful in providing background information on odours and for providing a framework for the assessment methodology which is discussed below. One of the authors of the commercial kitchen guidance provided their own update in 2018³ and this provides further relevant information and clarifies aspects of the original guidance, this is known as the Defra/EMAQ+ guidance.

The human nose is very sensitive to odour and can detect the presence of some chemicals at very low concentrations that would be difficult for instruments to measure. The environment is rarely “odour free” even in places that are perceived to be clean such as rural areas or by the sea. Our response to odours depends on four interlinked (sensory) characteristics:

- Hedonic tone: this is a judgement of the relative pleasantness or unpleasantness of an odour made by assessors in an odour panel;
- Quality/Characteristics: this is a qualitative attribute which is expressed in terms of “descriptors”, e.g., “fruity”, “almond”, “fishy”. This can be of use when establishing an odour source from complainants’ descriptions;
- Concentration: the “amount” of odour present in a sample of air. It can be expressed in terms of parts per million, parts per billion or in mg/m³ of air for a single odorous compound. More usually a mixture of compounds is present, and the concentration of the mixture can be expressed in odour units per cubic metre (ou_E/m³) (see definition below); and
- Intensity: is the magnitude (strength) of perception of an odour (from faint to strong). Intensity increases as concentration increases but the relationship is logarithmic. Increases or decreases in concentration of an odour do not always produce a corresponding proportional change in the odour strength as perceived by the human nose.

The most commonly used attribute is the concentration of odours; this is measured in European odour units (ou_E/m³) using a device known as an olfactometer which presents a sample of odour at different dilutions to a trained panel. The panel is asked whether they can detect odour at various concentrations. Once only 50% of the panel can detect the odour, it is considered to be at its “Detection Threshold”. The odour concentration at the Detection Threshold is defined to be 1 ou_E/m³. For instance, if an odour sample has been

¹ Defra, Guidance on the Control of Odour and Noise from Commercial Kitchen Exhaust Systems, January 2005 (withdrawn September 2017).

² Defra, Odour Guidance for Local Authorities, March 2010 (withdrawn September 2017).

³ EMAQ+ Control of Odour and Noise from Commercial Kitchen Exhaust Systems, Update, Dr Nigel Gibson, 2018

diluted in an olfactometer by a factor of 10,000 to reach the detection threshold, then the concentration of the original sample is 10,000 ou_E/m³.

Defra notes in their Local Authority guidance that 5 ou_E/m³ would be considered to be a 'faint' odour whilst 10 ou_E/m³ would be considered a 'distinct' odour. Generally, an average person would be able to recognise the source of an odour at about 3 ou_E/m³, although this can depend on the relative offensiveness of the odour. Background odour levels can be some 5-60 ou_E/m³ or more.

The Local Authority guidance notes that the main issue with odour is its ability to result in an effect that is "objectionable". The guidance notes that an offensive odour can occur at concentrations of compounds that are far below the level that would result in an effect on the physical health of humans.

The Defra/EMAQ+ Kitchen Ventilation guidance provides three factors that influence the production of odour from a commercial kitchen:

- Size of the facility – This influences the volume of ventilation air handled and the intensity of the odour;
- Type of food prepared – This affects the chemical constituents in the ventilation air; and
- Type of cooking appliances used – This dictates the level of fat, water, and the temperature of the ventilation air.

In general, the amount of odour released depends on the amount of oil/grease in the vented air and the quantities of spices used in the cooking. Therefore, deep fat frying, open grills and the cooking of more highly spiced food result in the highest odour releases.

The guidance notes that existing premises should have systems designed to comply with the principles of Best Practical Means and these should be achieved with an adequate level of odour control and stack dispersion. It notes that the discharge stack should ideally be located at least 1m above the roof ridge of any building within 15m of the vent. Where this is achieved, further odour control may not be required depending on the level of risk.

If this requirement cannot be complied with, then the discharge should be 1m above the roof eaves or dormer window of the building housing the kitchen and a higher level of odour control measures will be required. Where this cannot be achieved, then odours need to be reduced by control equipment and the guidance details how different levels of mitigation can be achieved to allow a low-level ventilation system to work successfully.

Annex C of the guidance provides a risk assessment framework for odour (see Table 1 below). This examines four factors - the location of the exhaust vent, the proximity of sensitive receptors, the size of the kitchen and the type of food cooked. An overall score is then calculated to give a risk rating, there are three possible risk levels: Low to Medium, High and Very High. The 2018 update to the guidance slightly amended the risk factors of cooking type and these are also detailed in Table 1.

Criteria	Score	Score	Details (Defra Guidance)	Details (Updated 2018 Guidance)
Dispersion	Very poor	20	Low level discharge, discharge into courtyard or restriction on stack	Low level discharge, discharge into courtyard or restriction on stack
	Poor	15	Not low level but below eaves, or discharge at below 10 m/s	Not low level but below eaves, or discharge at below 10 m/s
	Moderate	10	Discharging 1m above eaves at 10-15 m/s	Discharging 1m above eaves at 10-15 m/s
	Good	5	Discharging 1m above ridge at 15 m/s	Discharging 1m above ridge at 15 m/s
Proximity of receptors	Close	10	Closest sensitive receptor less than 20m from kitchen discharge	Closest sensitive receptor less than 20m from kitchen discharge
	Medium	5	Closest sensitive receptor between 20 and 100m from kitchen discharge	Closest sensitive receptor between 20 and 100m from kitchen discharge
	Far	1	Closest sensitive receptor more than 100m from kitchen discharge	Closest sensitive receptor more than 100m from kitchen discharge
Size of Kitchen	Large	5	More than 100 covers or large takeaway	More than 100 covers or large takeaway
	Medium	3	Between 30-100 covers or medium takeaway	Between 30-100 covers or medium takeaway
	Small	1	Less than 30 covers or small takeaway	Less than 30 covers or small takeaway
Cooking type (odour and grease loading)	Very high	10	Pub (high level of fried food), fried chicken, burgers or fish and chips	Pub (high level of fried food), fried chicken, burgers or fish and chips, Turkish, Middle Eastern or any premises cooking with solid fuel
	High	7	Kebab, Vietnamese, Thai or Indian	Vietnamese, Thai, Chinese, Steakhouse, Indian, Japanese
	Medium	4	Cantonese, Japanese or Chinese	Cantonese, Italian, French, Pizza (gas fired)
	Low	1	Most pubs, Italian, French, Pizza or Steakhouse	Most pubs (no fried food, mainly reheating and sandwiches etc), Tea rooms

Table 1 Defra/EMAQ+ Guidance Risk Assessment Framework Scoring

Each of the four factors is scored according to the criteria above and a total “significance score” is obtained. This score is used to assess the level of odour control required for the particular situation as shown in Table 2.

Impact Risk	Odour Control Requirement	Significance Score
Low to Medium	Low Level Odour Control	Less than 20
High	High Level Odour Control	20-35
Very High	Very High-Level Odour Control	More than 35

Table 2 Risk Assessment Framework Significance.

Where odour control is required, up to three stages of treatment can be used:

- Initial grease removal – usually by baffle filters or equivalent above the cooking area;
- Particulate removal – usually by filtration or electrostatic precipitator (ESP);
- Removal of gaseous odours – usually by carbon filtration or UV/Ozone treatment.

The guidance provides examples of equipment combinations that meet each level of odour control shown in Table 3.

Level of odour control	Equipment combination
Low to medium	1. Fine filtration or electrostatic precipitator (ESP) followed by carbon filtration (carbon filters rated with 0.1 second residence time)
	Fine filtration followed by counteractant/neutralising system to achieve the same level of control as 1
High	2. Fine filtration or ESP followed by carbon filtration (carbon filters rated with 0.2-0.4 second residence time)
	Fine filtration or ESP followed by UV ozone system to achieve the same level of control as 2
Very High	3. Fine filtration or ESP followed by carbon filtration (carbon filters rated with 0.4-0.8 second residence time)
	Fine filtration or ESP followed by UV ozone system to achieve the same level of control as 3
	Fine filtration or ESP followed by carbon filtration and by counteractant/neutralising system to achieve the same level of control as 3

Table 3 Examples of Odour Control Equipment and Level of Control

2.1.2 IAQM Guidance

The Institute of Air Quality Management (IAQM) produced guidance in 2014 and was updated in 2018⁴ with the specific intention to provide advice for “assessing odour impacts for planning purposes”. It provides details of various assessment techniques noting that each has its own strengths and weaknesses. Because of this, the guidance recommends using a multitool approach (i.e., a combination of at least two techniques).

The Defra/EMAQ+ Odour Risk Assessment method is one suitable tool and a second is the use of a Source, Pathway, Receptor (SPR) model. The SPR approach assesses the risk of an adverse odour impact by examining the source characteristics, how effectively the odours can travel from the source to a receptor (i.e., the Pathway) and examining the sensitivity of the receptor. For each of these factors, the guidance provides example risk factors to provide a consistent approach for the assessment. These risk factors are shown in Table 4.

Source Odour Potential	Pathway Effectiveness	Receptor
Source odour potential is allocated to one of three levels: small, medium or large. Factors affecting the source odour potential are: • The magnitude of the odour release • How inherently odorous the compounds are • The unpleasantness of the odour	Pathway effectiveness is allocated to one of three levels: highly effective, moderately effective and ineffective, Factors affecting the odour flux to the receptor are: • Distance from source to receptor • The frequency of winds from source to receptor • The effectiveness of any mitigation in reducing flux to the receptor • The effectiveness of dispersion/dilution in reducing the odour flux to the receptor • Topography and terrain	Use professional judgement based on the expectation of the users at the receptor location. However, the assessment usually considered residential receptors that are considered to be highly sensitive.

Table 4 IAQM Source Pathway Receptor Approach

⁴ Bull M, IAQM, Guidance on the assessment of odour for planning, 2018 update

An example matrix for assessing the outcome is also provided in the guidance and shown in Table 5 below.

		Source Odour Potential		
		Small	Medium	Large
Pathway effectiveness	Highly effective	Low risk	Medium risk	High risk
	Moderately effective	Negligible risk	Low risk	Medium risk
	Ineffective	Negligible risk	Negligible risk	Low risk

Table 5 Risk assessment framework at a specific receptor

The IAQM Guidance also discusses the use of observational tools such as sniff testing, this is an accepted observational tool and the guidance notes that the results of such surveys can be expected to be robust and reproducible and for an existing source, observational approaches should be given “considerable weight”.

An approach for sniff testing is detailed in Box 4 of the IAQM guidance. A sensory test is carried out every 10 seconds over a 5 minute period at each test location. For each observation, the intensity of the odour is noted using the VDI scale shown in Table 6. The assessor also makes notes regarding the nature and offensiveness of any odours detected.

Odour Strength	Intensity Level	Comments
No odour	0	No odour
Slight/very weak	1	There is probably some doubt whether odour is actually present
Slight/weak	2	The odour is present but cannot be described using precise words or terms
Distinct	3	The odour is barely recognisable
Strong	4	The odour 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

Table 6 VDI Scale for odour sniff testing

Further guidance is provided to provide descriptors of the odour exposure from the sniff testing results, this is shown in Table 7.

Average Odour Intensity	Percentage time odour is greater than or equal to VDI scale 4				
	10%	11-20%	21-30%	31-40%	>= 40%
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

Table 7 IAQM Guidance to assess odour exposure from sniff testing

2.2 Regulation

Generally, kitchen vents are not regulated under environmental legislation. At the planning stage, the arrangements for ventilation will be examined to ensure compliance with building regulations. In addition, at planning, it is likely that the local Environmental Health Officer (EHO) would wish to be satisfied that a new vent would not give rise to a statutory nuisance under the Environmental Protection Act (EPA).

Where the source of odours already exists, then if it is considered that the level of odour is sufficient, then the local authority can issue an abatement notice under the EPA requiring that the nuisance is removed. There is a defence of Best Practicable Means (BPM) that can be used but this would require that the system installed was fully compliant with guidance and all possible reasonable measures had been taken to abate the nuisance.

Kitchen ventilation systems are regulated under Health and Safety and Food Hygiene legislation and generally require that kitchens are provided with sufficient air to maintain a safe working environment, particularly where gas cooking (or other burning fuel) is used. As a result, many kitchens have automatic systems that shut down the cooking appliances if the ventilation system fails.

3 Appraisal

3.1 Site location and surroundings

Regal Buildings is located between 44 and 46 Market Street (see Figure 1). It is a former nightclub building that is being converted to 4 commercial units on the ground floor and residential accommodation on the first to third floors. The elevations of the converted building are shown in Figures 2 and 3.

Details of the use of each retail unit nearby can be seen on the Google Maps extracts on Figures 4 and 5, these were also confirmed to be accurate by a site visit on 18 June 2024. It should be noted that the Oven Door Bakery is also combined with a butcher's shop (Smith's Butchers).

During the site visit, each of the shops was inspected, where access was possible the rear of the buildings was also viewed (the rear of all of the buildings on the east side of Market Street is visible from Mitchell Road and several can be viewed from high level from the upper stories of Mitchell Road car park). The rear of buildings on the west side of Market Street was not accessible although it should be noted that many of these have residential use on the upper levels that would be sensitive to odours.

The following establishments were identified as possibly having the potential for odour emissions:

- Coffee 1 – 38 Market Street;
- Istanbul Grill – 40 Market Street;
- Oven Door Bakery – 50 Market Street;
- Smith's Butchers – 50 Market Street;
- Oishii Ramen and Bubble Tea – 46 Market Street;
- Popz Tea – 56 Market Street;
- Kokoro (Sushi) – 23 Market Street; and
- Costa Coffee – 27-29 Market Street.

The odour risk assessment for each of these operations is provided in Section 3.2.

Sniff testing following the method detailed in the IAQM guidance was also carried out, a triplicate sample on a third floor balcony on the northern façade of Regals Buildings and testing next to, and to the rear of Oishii Ramen and Bubble Tea. This is reported in Section 3.3.

3.2 Odour Assessment for Each Source

3.2.1 Coffee 1

Coffee 1 is a standard coffee shop on the corner of Market Street and Leigh Street . The menu has no cooked items except those that are toasted or reheated. There are no dedicated external vents for cooking at either the front or rear of the building. The odour potential for this type of operation is extremely low and no discrete source of odour. There is no extract and hence the pathway for odours to travel from the shop to new receptors in Regal Building is ineffective.

The combination of a Low source odour potential and ineffective pathway would result in a Negligible odour impact using the IAQM SPR assessment method.

3.2.2 Istanbul Grill

The Istanbul Grill is a kebab and pizza takeaway, it has no extract at the front of the building but there is a dedicated extract at the rear discharging vertically located around 1m above eaves height above the first floor level (See Figure 6). The vent is located approximately 24m⁵ from the northern façade of Regal Buildings. Refuse is stored at the rear of the building for this (and other premises) in covered commercial bins.

It is known that the planning application submitted for this proposal states that and ESP and carbon filters will be installed at this site and the cuboid box at the base of the vent is likely to be the carbon filters.

This type of cooking is considered to be highly odorous using the EMAQ+ definitions.

Table 6 provides the scoring following the EMAQ+ DEFRA odour risk assessment framework.

Criteria	Score	Justification
Dispersion	10	Moderate – discharging vertically above eaves height.
Proximity of receptors	5	Medium – Regal buildings receptors are around 24m or more from the vent
Size of kitchen	3	Medium – 20-100 covers
Cooking type	10	Very high – burgers, fried foods, use of spices.

Table 8 Defra/EMAQ+ Odour Risk Assessment Scores

The total score is therefore 28 which is considered to be a High Risk, this is a typical outcome for a restaurant located in an urban area.

However, the combination of the ESP and carbon filters that have been fitted at this site provides a level of odour control that is consistent with the assessed risk and will reduce the odour emissions at source to a much lower level.

⁵ Note all distances described in this section of the report have been measured from Google Maps

It is also useful to use the SPR assessment method for this source as this can consider the relative locations of the receptors, the impact of the odour control equipment and the local weather conditions. The SPR method can also assess the potential for odours from the waste bins to adversely affect the proposed development.

The wind rose for Southampton airport is shown in Figure 7 which shows that the predominant wind direction is from the southwest. Winds from the northwest quadrant (that would blow odours from the Istanbul Grill vent towards Regal Buildings) are uncommon (2-3% for each segment a year).

An SPR assessment has been carried out for the kitchen vent and waste bins, the outcome of this assessment is shown in Table 9.

Table 9 Source Pathway Receptor Odour Assessment

Source	Source Odour Potential	Pathway Effectiveness	Receptor	Odour Risk and Justification
Istanbul Grill Rear Vent	Grilled meats and use of spices, high odour foods before odour control Odour control equipment fitted (ESP and carbon filter). Medium odour Source potential	Sensitive receptors are located 24m or greater from the source, most are at lower level than the effective discharge height of the vent but some properties on Regal Buildings will be located physically higher. The frequency of the wind direction from the northeast quadrant is relatively low. Moderately effective pathway effectiveness given vent location and that some properties will be higher than the vent.	Residential properties are highly sensitive.	The odour risk is considered to be Low. Discharge at high level with odour control equipment fitted. Prevailing winds blow away from Regal Buildings.
Waste bins	Commercial waste in covered bins. Mix of inert and some food waste. Small odour source potential	Waste is in covered bins, 24m or further from the development. The frequency of the wind direction from the northeast quadrant is relatively low. Ineffective pathway	Residential properties are highly sensitive.	The odour risk is considered to be Negligible, Small odour source with ineffective pathway.

As can be seen, the outcome of the odour risk assessment is that there is a Low risk of adverse odour impacts at Regal Buildings from the vent of the Istanbul Grill.

3.2.3 Oven Door Bakery

This appears to be only a retail bakery, visual inspection indicated no evidence of commercial cooking visible from the front of the building and the rear is not accessible. However, there are residential units at higher level on this side of the street that would be subject to much greater levels of odour should any cooking take place. No odours were detected near to this building. No refuse is stored at the front of the building.

This is not considered to be a significant odour source and would therefore have no impact on new occupants of Regal Buildings.

3.2.4 Smith's Butchers

This is a retail butchers, no cooking appears to be carried out at the site and there is existing residential use on this side of the street that would be subject to much higher levels of odours if any existed. Raw meats are stored in cool places and would be refrigerated in an enclosed area when the shop was not open. There are no vents on the external façade and it is only the doorway that could allow odours to travel out of the building. No refuse is stored at the front of the building.

This is not considered to be a significant odour source and would therefore have no impact on new occupants of Regal Buildings.

3.2.5 Oishii Ramen and Bubble Tea

This operation is located directly to the south of Regal Buildings, a cooking area is visible with an extract canopy and a vent is located around head height at the rear of the building (see Figure 8). This vent is directly below residential use at first floor level. The style of food preparation is acknowledged in the planning application (F/22/94163) to have very low odour, as stated in the Delegated Officers Report only emissions of steam are expected. Condition 3 of the planning permission states:

"The equipment detailed in the approved plans to discharge odours and fumes from the cooking and production of Bubble Tea and Soup-based boodles only is to be installed and thereafter to be maintained in full working order. The cooking process shall cease to operate if at any time the approved extraction equipment fails to function".

Very slight odours could be detected at the shop entrance but odour sniff testing at the side and rear of the building did not detect any significant odours (see Section 3.3).

There are covered waste bins at the rear of the building, these would be located close to opening windows of properties in Regal Buildings. However, they are covered bins, no refuse odours were noted in this location and there is already residential use nearby immediately next to the bins including open amenity space (see Figure 8). These are therefore a small source with an ineffective pathway for odours to travel and therefore would have a Negligible impact.

Given the type of food and drink prepared and the expectation that only steam would be emitted, this is not considered to be a significant odour source and would therefore have no impact on new occupants of Regal Buildings.

Note that Oishii occupies premises that were previously used as a dry cleaners that is referred to in the previous AQC report.

3.2.6 Popz Tea

This is a bubble tea shop located around 30m from the closest point of Regal Buildings. As well as bubble tea, it also serves some coffee shop style food such as paninis. Bubble tea has no significant odours (as acknowledged in the council decision for Oishii) and the style of food served has no significant odours. No vents were visible at the front and rear of the building and there are no planning decisions referring to such a vent on the EBC Planning Portal.

Waste is stored in covered commercial bins at the rear of the building on Mitchell Road.

This is not considered to be a significant odour source and would therefore have no impact on new occupants of the building.

3.2.7 Kokoro

Kokoro is advertised as a Sushi restaurant but also serves a range of hot food including curries, noodles and gyoza. It is located on the western side of Market Street around 45m from the closest part of Regal Buildings. The front of the building (the façade nearest to Regal Buildings) is used as a restaurant area, food preparation is at the rear of the building which. No kitchen vents were visible at the front of the building and the rear of the restaurant is more than 50m from Regal Buildings. The pathway for any odour emissions at the rear of the building to travel to Regal Buildings would be partly obstructed by the building housing Kokoro.

No odours were apparent at the front of the building during the site visit.

This is a small odour source with an ineffective pathway for odours to reach Regal Buildings and the impacts would therefore be Negligible.

3.2.8 Costa Coffee

Costa Coffee is a standard high street café, the food served is either cold or reheated in a panini grill or small oven. There is no dedicated extract system for the food preparation area and no vents on the front of the building. It is located 55m from the nearest part of Regal Buildings.

This is a small odour source with an ineffective pathway for odours to reach Regal Buildings and the impacts would therefore be Negligible.

3.3 Sniff Testing

During the site visit, a short sniff testing survey was undertaken. Access into parts of Regal Building was available and testing could be carried out on a third floor balcony closest to the Istanbul Grill (the only significant potential odour source identified although odour control is fitted). Two further tests were carried out near to Oishii, one in Regal Passage next to an open window and one in Mitchell Road at the rear of the premises. Full results are provided in Appendix A reported using the VDI scale.

Triplicate sniff testing was carried out on the third floor balcony of Regal Buildings following the procedure detailed in the IAQM guidance. The temperature was 20C and the wind direction was from the north at 5 knots (as reported on the Met Office app). These would be good conditions for detecting odour from this source. Testing was carried out between 12.35 and 13.00, the Istanbul Grill was observed to be operational and serving food during this period. Average odour levels during the testing were below VDI scale 1, normally odours were not detectable. There were occasional slight odours at VDI scale 3 (just recognisable as cooking odours) and during one test, two of the thirty tests detected odours at VDI Scale 4 (easily recognisable). This level of odour is consistent with the expectation that odours would at low levels following the treatment by odour control equipment in the premises. Using the IAQM approach detailed in Table 7, this would be a Small odour impact.

Neither of the sniff tests undertaken near to Oishii detected any odours above VDI scale 2. During the site visit and walking between sniff tests, some very faint food odours could be detected just by the door and window of the premises. No refuse odours were detected. This would be a Negligible impact.

3.4 Odour Sources within Regal Buildings

The development at Regal Buildings is four commercial units on the ground floor and residential units on the upper floors. None of the commercial units have tenants at present and, as previously stated, there are no plans for a restaurant at present. The ground floor also a refuse store on the northeast corner of the building. This is planned to have roller shutter stores and refuse would be stored on covered bins. There would therefore be no effective pathway for odours to travel from the refuse store to residential areas.

No significant odour impacts would be expected from any odour source within Regal Buildings.

4 Conclusions

An odour appraisal has been carried out in response to comments received from EBC regarding the discharge of Condition 5 on Planning Consent DC/24/97225. These comments requested that a further odour assessment was carried out including on-site observations. In addition, EBC requested that an odour assessment be carried out of a restaurant vent referred to in the noise assessment submitted with the application.

It has since been clarified by the Frontier Property Ltd that there are no plans for a restaurant in the premises. Should any plans come forward in the future, then a further planning application would be required for an appropriate ventilation system.

A further odour appraisal has been carried out supported by on-site observations and sniff testing. There are several commercial cooking operations and food retail activities in the area and each of these has been examined in detail. Nearly all of these activities are considered to be small odour sources or have an ineffective pathway for odours to travel from the source to new residential receptors in Regal Buildings and therefore are not considered to have a significant impact.

The Istanbul Grill is a kebab shop located to the north of Regal Buildings and has the potential to be a larger odour source. It has a dedicated kitchen vent at the rear of the building but the planning documents submitted also state that odour control equipment using an ESP and carbon filters will be fitted at the premises and therefore these are assumed to be in place (and there is visual evidence of a carbon filter box being fitted). This equipment provides a High level of odour control which is consistent with the assessed odour risk using the EMAQ+ guidance. Odour sniff testing confirmed that the levels of odour reaching the upper floor of Regal Buildings was low.

Further sniff testing confirmed that there were no significant odours from a Oishii Ramen and Bubble Tea located directly to the south of Regal Buildings.

There are no significant sources of odour proposed in the development at Regal Buildings.

It is therefore concluded that there would be no significant impact on amenity with respect to odours for future residents of Regal Building on the basis of current activities in the area.

Figures

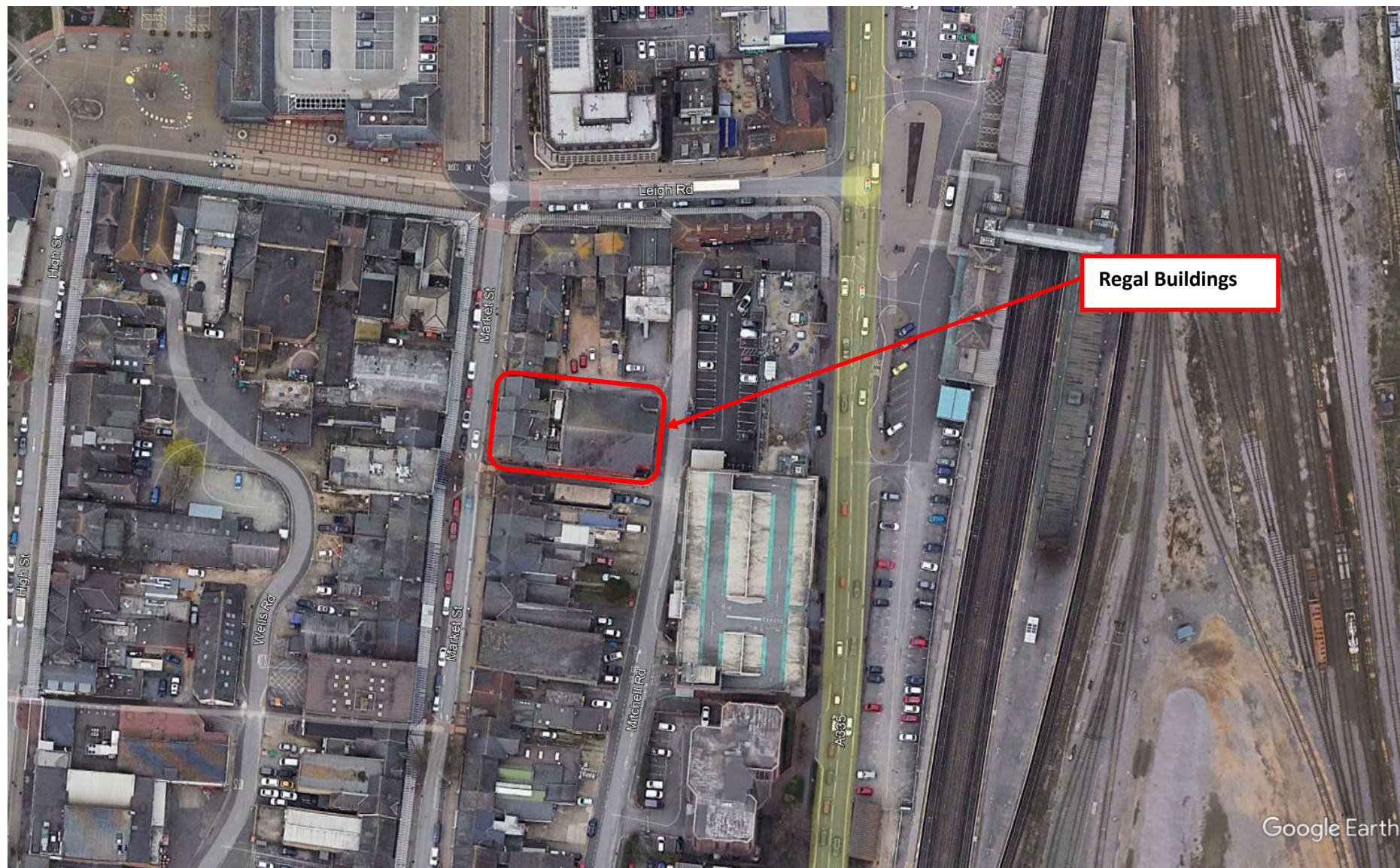


Figure 1 Site location

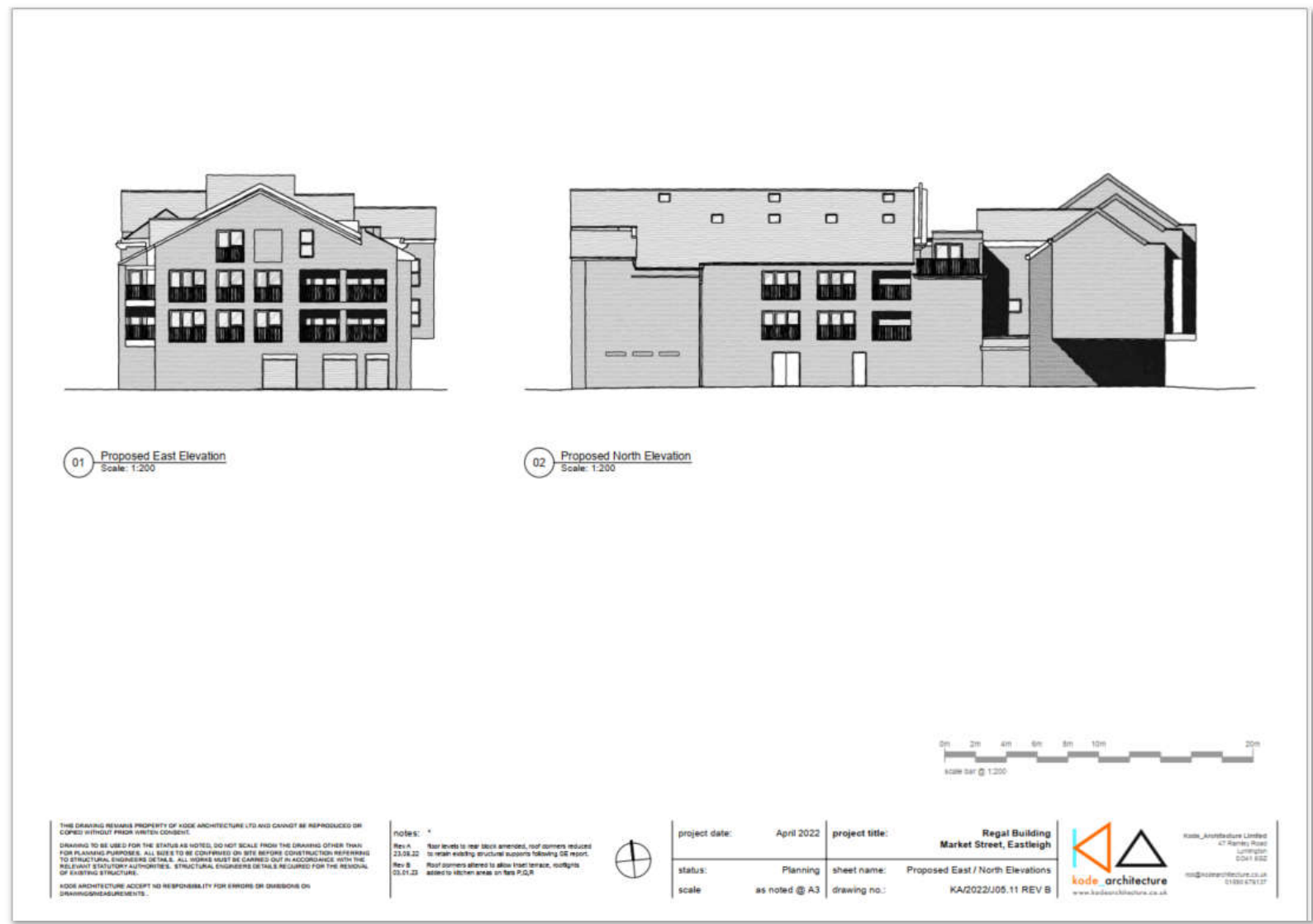


Figure 2 Proposed East and North Elevations - Regal Buildings



Figure 3 Proposed West and South Elevations - Regal Buildings

Odour Appraisal

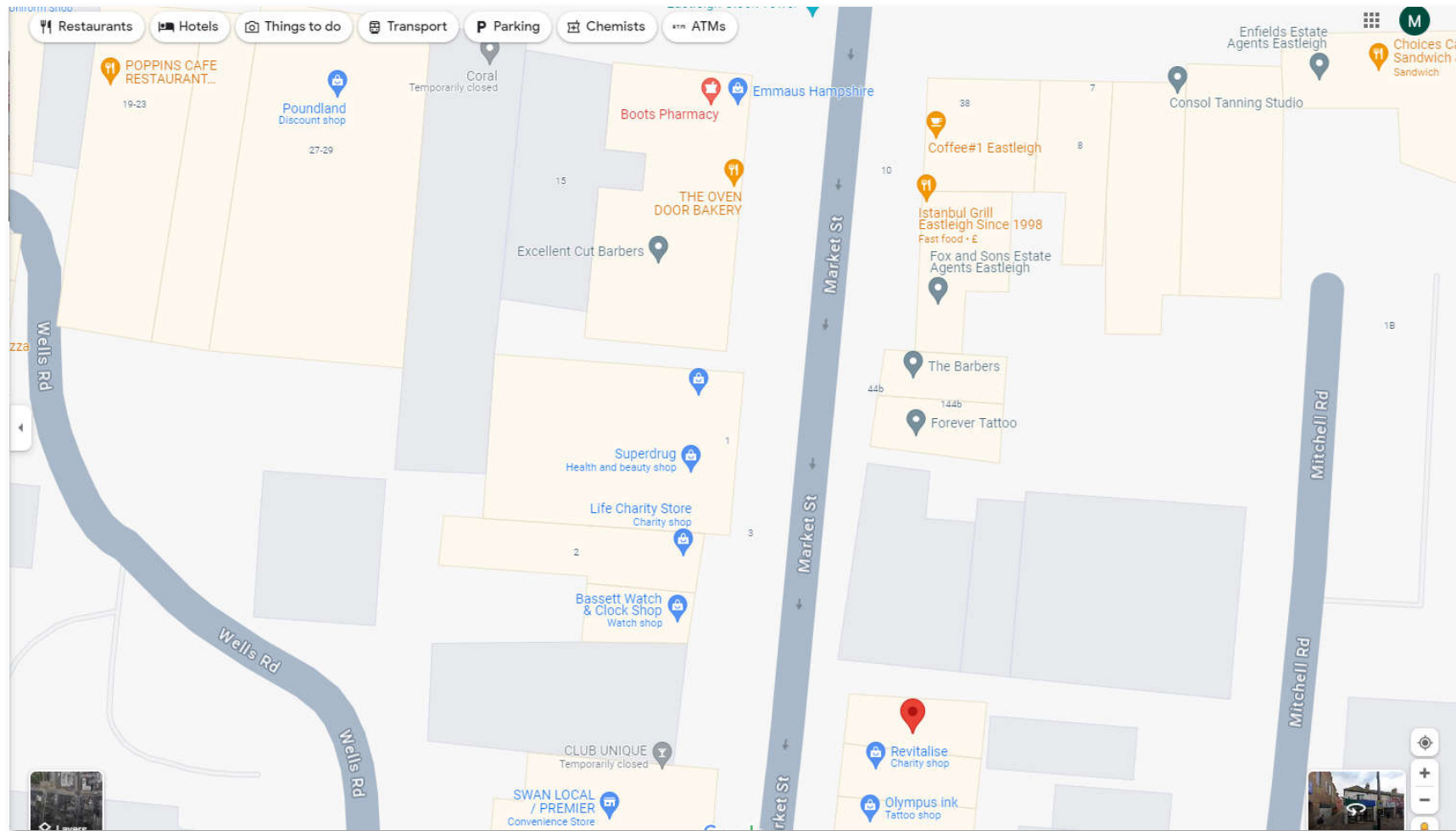


Figure 4 Google Maps extract showing use of commercial premises

Odour Appraisal

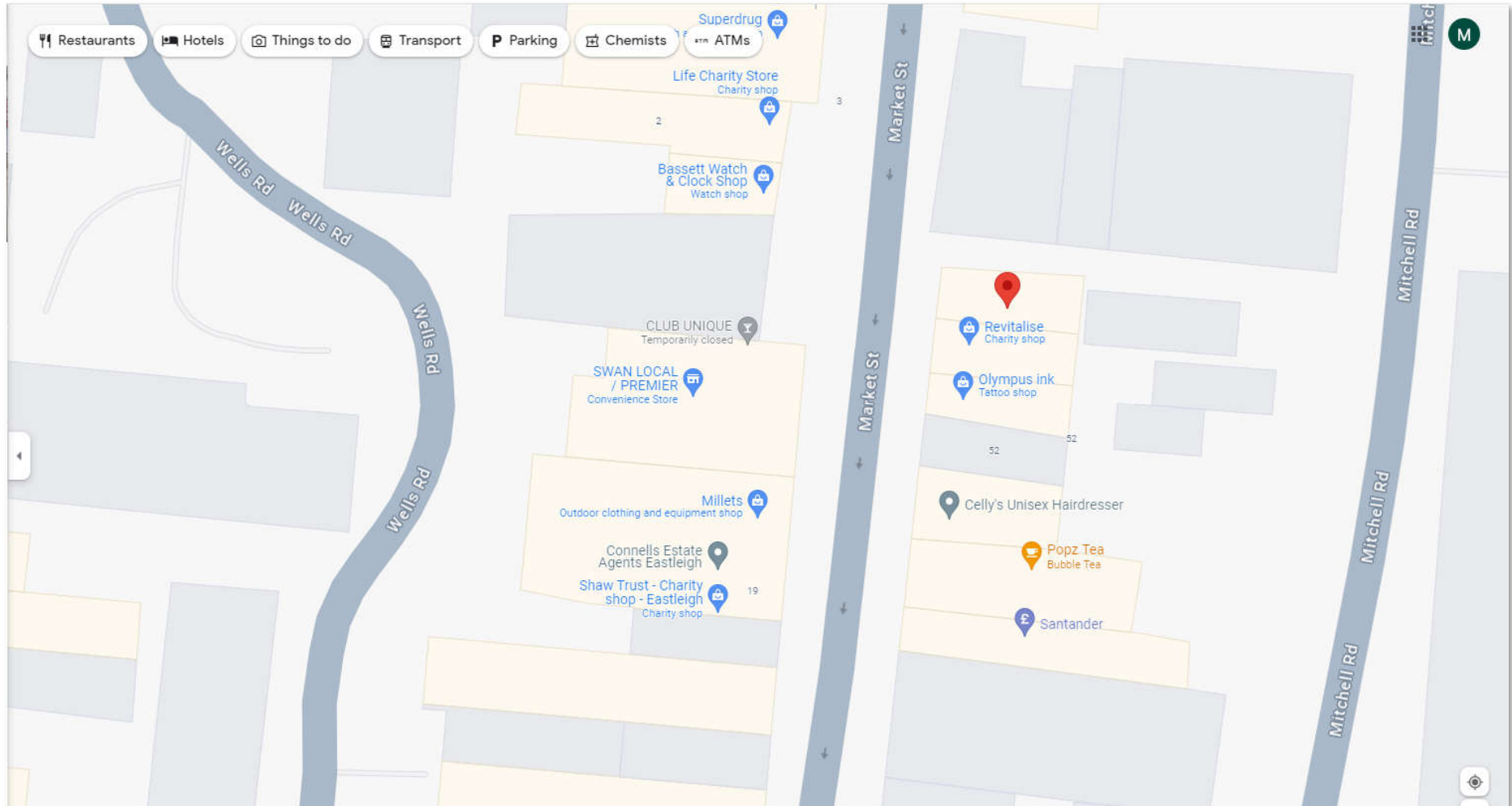
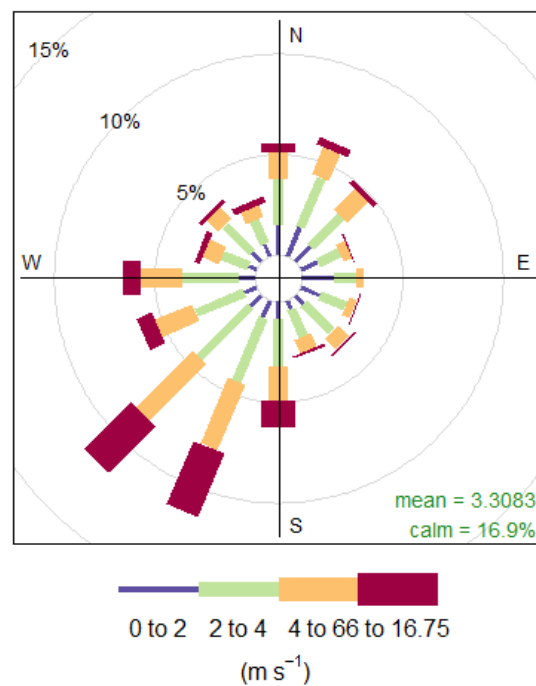


Figure 5 Second Google Maps extract showing use of commercial premises



Figure 6 Vent from Istanbul Grill



Frequency of counts by wind direction (%)

Figure 7 Windrose for Southampton Airport 2018-2022



Figure 8 Rear of Oishii showing amenity space and residential use at upper levels

Appendix A – Sniff Testing Results

On Balcony - north façade			Time 12.35		
0	0	0	0	3	3
3	2	0	0	0	0
2	0	0	0	0	0
0	0	0	0	0	0
2	0	0	0	0	2
Average	0		% >= 4		0.0%
On Balcony - north façade			Time 12.45		
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	3	4
0	0	2	3	3	4
3	0	0	0	0	0
Average	0		% >= 4		6.7%
On Balcony - north façade			Time 12.55		
2	2	2	2	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
3	0	0	0	0	0
Average	0		% >= 4		0.0%

Odour Appraisal

Outside Noodle Bar on Regal Walk		Time 13.02			
0	0	0	0	2	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	2	0	0	0	0
Average	0		% >= 4		0.0%
Behind noodle bar		Time 13.08			
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
Average	0		% >= 4		0.0%