

ODOUR ASSESSMENT

Project Transformer
2-44 Graingers Road, West Footscray

Prepared for:

Paintback Pty Ltd
c/o Davis Advisory
Level 21 Tower One
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BASIS OF REPORT

This report has been prepared by SLR Consulting Australia Pty Ltd (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Paintback Pty Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

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DOCUMENT CONTROL

Reference	Date	Prepared	Checked	Authorised
640.30545-R01-v2.1	17 March 2023	Jason Shepherd	Judith Cox	Jason Shepherd
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EXECUTIVE SUMMARY

SLR Consulting Australia Pty Ltd (SLR) was engaged by Davis Advisory on behalf of Paintback Limited (Paintback) to conduct an odour air quality assessment of a proposed paint recovery facility (PaCE HQ) proposed to be housed within a building on the existing Watty! Paints site on Graingers Road, West Footscray.

PaCE HQ activities will include:

- receiving mixed domestic and trade paint cans
- the sorting and separation of the paint
- packaging streams into clean reusable materials.

The emissions of paint odours may be emitted when the paint containers are crushed as they are likely to break open with any residual wet paint within drained out and directed into intermediate bulk containers (IBCs). This process will be serviced by a low-level extraction system in proximity to the solvent-based paint crushing plant, such that the heavier than air odorous solvent vapours will be removed, limiting fugitive emissions into the rest of the building. Extracted air will be discharged to air through a stack above the building. The extraction system will incorporate provision for a carbon filter system (to remove odour) should this be found to be required following commissioning. The building itself will be force-ventilated at roof level.

A Level 1 and Level 2 assessment for PaCE HQ conducted in accordance with EPA Victoria Publication 1883 "*Guidance for Assessing Odour*" finds that PaCE HQ poses a low odour risk and is unlikely to adversely affect the amenity of nearby sensitive land uses.

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1 Introduction

SLR Consulting Australia Pty Ltd (SLR) was engaged by Davis Advisory on behalf of Paintback Limited (Paintback) to conduct an odour air quality assessment of a proposed paint recovery facility (PaCE HQ) proposed to be housed within a building on the existing Wattyl Paints site on Graingers Road, West Footscray (the Wattyl site).

The odour assessment assesses the risk of paint related odour emissions adversely affecting the amenity of nearby land uses and whether that risk posed a constraint on PaCE HQ. The assessment was performed in general accordance with the EPA Victoria publication “*Guidance for Assessing Odour*” (EPAV, 2022).

2 PaCE HQ Description and Site Details

The PaCE HQ project is described in Annexure D of the application, and our comments and findings are referable to that project.

The Wattyl site and immediately surrounding land is zoned Industrial 1 Zone (IN1Z) and Industrial 3 Zone (IN3Z) with General Residential 1 Zone (GR1Z) to the south and Mixed-Use Zone and Neighbourhood Residential Zone to the southwest (see Figure 1).

The location of the Site and distance to the nearest residential sensitive receptor areas are shown in the aerial photograph presented in Figure 2.

Figure 1 Land Use Zoning



Figure 2 PaCE HQ Location and Nearest Sensitive Receptors



3 Victorian Environmental Legislation

3.1 Environment Protection Act 2017 and Odour

The *Environment Protection Act 2017* (Vic) (the Act) took effect on 1 July 2021 and introduces a general environmental duty (GED), which will require everyone, including businesses and individuals, conducting activities that pose a risk to human health or the environment from pollution or waste to understand those risks and take reasonably practicable steps to eliminate or minimise them.

The intention of the GED is that a risk-based approach to minimise risk of harm (and/or nuisance), rather than compliance with defined standards, should be pursued.

Under the Act, the *Environment Reference Standard* (ERS) is used to assess and report on environmental conditions in the whole or any part of Victoria. It sets out indicators and objectives for the ambient air environment and includes an odour environmental quality objective:

An air environment that is free from offensive odours from commercial, industrial, trade and domestic activities.

3.1.1 Guidance for Assessing Odour

EPA Victoria Publication 1883 "*Guidance for Assessing Odour*" (EPAV, 2022) provides information on how to assess the risk posed by odour emission sources, and to understand the receiving environment where effects might occur. The Guideline is primarily intended for government, the planning sector, practitioners and specialists, who need to understand offensive odours that are associated with a development proposal, investigation or study where an odour assessment is required. It provides a framework including Level 1, 2 and 3 assessments (conducted progressively) as required by the complexity of the individual situation.

As the proponent of change, the onus of demonstrating the minimisation of risk with respect to odour is on Paintback.

3.2 Victorian Planning Provisions

The Victoria Planning Provisions (VPP) is a state-wide reference document or template from which Victorian planning schemes are sourced and constructed. Of relevance to the proposed rezoning is the Maribyrnong Planning Scheme.

3.2.1 Maribyrnong Planning Scheme

The purpose of the Maribyrnong Planning Scheme is:

- *To provide a clear and consistent framework within which decisions about the use and development of land can be made.*
- *To express state, regional, local and community expectations for areas and land uses.*
- *To provide for the implementation of State, regional and local policies affecting land use and development.*
- *To support responses to climate change.*

Clause 13.06-1S 'Air quality management' considers the Recommended Separation Distances for Industrial Residual Air Emissions, as discussed in Section 3.3, and the ERS as relevant policy documents and includes the following strategy:

"Ensure, wherever possible, that there is suitable separation between land uses that pose a human health risk or reduce amenity due to air pollutants, and sensitive land uses (residential use, child care centre, school, education centre, residential aged care centre or hospital)."

3.2.1.1 Threshold Distances

Clause 53.10 of the VPP discusses land uses with adverse amenity potential. The purpose of this clause is to define those types of uses and activities which, if not appropriately designed and located, may cause offense or unacceptable risk to the neighbourhood.

Clause 53.10.-1 provides a table of Threshold Distances for various land uses, where the Threshold Distance is:

"the shortest distance from any part of the land to:

- land (not a road) in an Activity Centre Zone, Capital City Zone, Commercial 1 Zone, Docklands Zone, residential zone or Rural Living Zone; or*
- land used for a hospital, an education centre or a corrective institution; or*
- land in a Public Acquisition Overlay to be acquired for a hospital, an education centre or a corrective institution."*

Clause 53.10-1 states that:

"An application to use land for an industry, utility installation or warehouse for a purpose listed in the table to this clause must be referred to the Environment Protection Authority under section 55 of the Act if the threshold distance is not to be met or no threshold distance is specified."

The threshold distance for *paints and inks manufacture, blending and mixing exceeding 2,000 L per day*, applicable to the existing Watty Site, is 500 m. It is noted that general residential zones (Figure 1) are less than 500 m from the building(s) to the north of the Watty Site in which paints are manufactured.

3.3 Recommended Separation Distances for Industrial Residual Air Emissions

EPA Victoria Publication 1518, "*Recommended Separation Distances for Industrial Residual Air Emissions*" (EPAV, 2013) makes recommendations for assessing appropriate separation distances where amenity may be reduced for sensitive or incompatible land uses. Sensitive land uses that warrant protection from amenity-reducing off-site effects of industry by maintenance of a buffer distance include residential areas and zones, hospitals and schools.

Industrial Residual Air Emissions (IRAEs) are defined by the EPA as unintended or accidental emissions (i.e. due to equipment failure, abnormal weather conditions etc) which are often episodic in occurrence and may originate near ground level. While routine emissions may be controlled at point of emissions, or through sufficient dispersion to ensure ground level concentrations meet license requirements, provision of a buffer distance that also considers IRAEs allows for unintended emissions to dissipate without adverse impacts on sensitive land uses.

EPAV (2013) is intended to support effective decision making with regard to land uses to protect human health and wellbeing, local amenity and aesthetic enjoyment from IRAEs, but they are also intended to protect existing industry from encroachment by sensitive uses.

The encroachment of sensitive land uses on existing industrial uses has the potential to lead to the unwanted situation where amenity at the sensitive land use is compromised and remedial action to alleviate off-site impacts from the industry is deemed uneconomical, such that the viability of the industry is jeopardised.

The compatibility of a proposed sensitive land use development with surrounding land uses and zones should therefore be carefully assessed.

EPAV (2013) lists a number of industries with their recommended IRAE separation distances and recommends EPA consultation where site-specific circumstances indicate a lesser separation distance may be appropriate (i.e. where there is no history of complaints arising from residual emissions or where the plant is significantly smaller than that used in the recommendations etc).

The recommended separation distance for *paint and ink manufacture exceeding 2,000 L per day*, applicable to the existing Watty Site, is 500 m. Again, it is noted that general residential zones (Figure 1) are less than 500 m from the building(s) to the north of the Watty Site in which paints are manufactured.

Note that EPA Victoria Publication 1949, "*Separation distance guideline*" (EPAV, 2022) is due to supersede EPAV (2013) in 2023, however the separation distance applicable to the existing Watty Site is unlikely to change with this update.

4 PaCE HQ Process and Sources of Odour Emission

The PaCE HQ process will be as follows:

- Stillages filled with various containers of both solvent and water-based paint will be delivered to the site.
- Stillages will be stored in bunded laydown area before being taken to the processing plant by forklift.
- The containers will be sorted into either water based or solvent based products.
- For water-based paint containers:
 - Paint will be removed from the containers using a screw auger breaking and crushing the metal and plastic containers.
 - Paint will be captured in intermediate bulk containers (IBCs) prior to being standardised and being shipped off site to specific customers for reuse as an ingredient in other products.
 - Packaging will be shredded, washed and recovered.
- For solvent-based paint containers:
 - Paints will be transferred to another room where the metal tins will be crushed with an IECX rated screw auger.
 - Paint will be collected in IBCs and the crushed containers transferred to a skip and sent for metal recycling.

Sources of odour will be limited to those associated with the emission of VOCs from wet paint remaining in the containers received by the Site. Closed paint containers in stillages will be delivered to the Site such that no significant paint odour is expected to be emitted during this stage of the process, nor during any subsequent required sorting (i.e. water-based or solvent based).

The emissions of paint odours may be emitted when the paint containers are crushed as they are likely to break open with any residual wet paint within drained out and directed into IBCs. This process will be serviced by a low-level extraction system in proximity to the solvent-based paint crushing plant, such that the heavier than air odorous solvent vapours will be removed, limiting fugitive emissions into the rest of the building. The building itself will be force-ventilated at roof level.

Extracted air will be discharged to air through a stack above the building. The extraction system will incorporate provision for a carbon filter system (to remove odour) should this be found to be required following commissioning.

Subsequent washing and shredding of the containers is unlikely to emit significant odours.

5 Odour Assessment Methodology

5.1 Level 1 Assessment

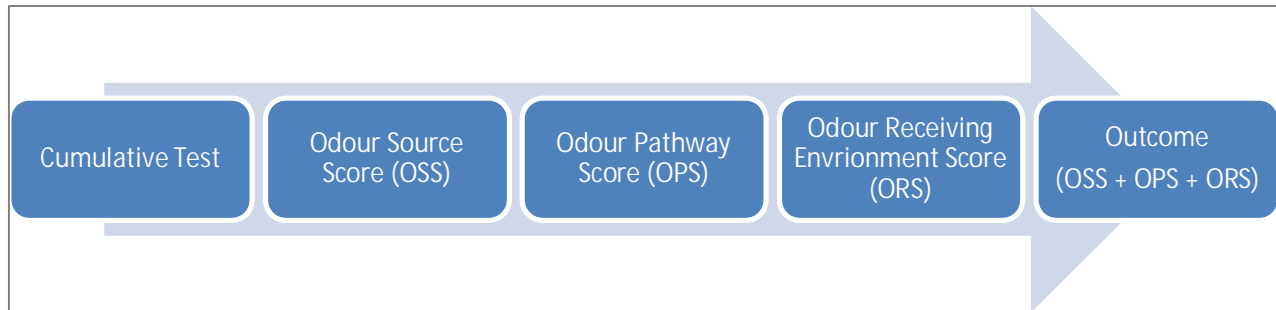
Publication 1883 considers a Level 1 risk assessment a “gateway assessment” and that it should be used when looking at single odour source, or in cases where the new odour source is so different to existing sources it does not create a cumulative impact. The Level 1 assessment considers three tests, a pass of any one resulting in the Level 1 assessment being passed:

- 1) First test: Duration of emissions
 - *Do odorous emissions occur for less than 200 hours per year (< 2% of the time)?*
 - *If the activity or operation occurs for less than 200 hours per year do individual activities or operations occur for less than 8 hours at a time?*
- 2) Second test: Wind direction
 - *Do prevailing wind patterns direct odorous emissions towards the receiving environment less than 200 hours per year (< 2% of the time)?*
- 3) Third test: Minor odour emission source
 - *Can the source be classified as a minor odour emission source? That is:*
 - *The source is stationary with a stack height of at least 10 m.*
 - *The source height is at least 1.7 times the relevant building height(s), meaning there aren't any obstructions within a 15 m radius that could influence stack dispersion (including building wake effects).*
 - *The emission source is situated on level terrain (free of terrain effects).*
 - *The distance between the emission source and the receiving environment occupied by people is ≥ 100 m.*
 - *At the source location, average wind speeds of < 1 m/s occur less than 20 % of the year.*
 - *For stack heights > 50 m, the minor mass flow for the stack height of 50 m applies. That is the source demonstrates optimal stack height versus odour emission rate (millions of odour units/m³/hr – Mou/hour) (odour emission rate /stack height relationship provided).*

If the Level 1 assessment shows that the activity is low risk for odour, there is no need to proceed to a Level 2 assessment. The Level 1 assessment for PaCE HQ is presented in Section 7.1.

5.2 Level 2 Assessment

This Level 2 assessment consists of cumulative effects tests and the source-pathway receiving environment tool. The cumulative effects tests take into consideration the effects of multiple odour sources where there is different dispersed industry, different clustered industries, and clusters of similar industries.



Source/Pathway/Receiving Environment Tool

The source-pathway-receiving environment tool gives guidance on determining the level of hazard posed by the odour source, the effectiveness of the exposure pathway, and the sensitivity of the receiving environment. It enables the calculation of a risk score, which, depending on its value, and the quality of the evidence used, concludes that the risks associated with the proposal are either low, or that a Level 3 assessment is required.

Scoring is based on three attributes, each taking the maximum score assessed for a number of tests:

- Hazard potential of the source (odour source score – OSS):
 - *activity type – what is the nature of the odour generating activity? (Score: 1 to 4)*
 - *physical size of odour hazard – what is its area, volume, area or throughput etc.? (Score: 1 to 3)*
 - *type of odour emission – to what extent is there potential for the odour to be perceived negatively? (Score: 1 to 3)*
 - *effectiveness of odour controls – what level of odour controls are utilized? (weighting: -1 to +1)*
- Exposure pathway between the source and sensitive locations (odour pathway score – OPS):
 - *distance – what is the distance between the source and receptor? (Score: 1 to 3)*
 - *meteorology – do wind patterns promote transport of odour towards receptor? (Score: 1 to 3)*
 - *terrain and built form – to what extent does intervening topography, built form and vegetation affect odour transport between the source and receptor? (Score: 1 to 3)*
 - *hours of operation – how frequent are odour emissions from the source? (Score: 1 to 3)*
- Sensitivity of the receiving environment (odour receiving score – ORS):
 - *How sensitive is the receiving land use (as defined by the Victoria Planning Provisions (VPP) land use terms and nesting groups (Clause 73.03 and 73.04)? (Score: 1 to 3)*

The maximum scores assessed for the OSS, OPS and ORS are summed and the source-receptor situation odour risk is classified as provided in Table 1.

Table 1 Level 2 Score Outcomes

Score (OSS + OPS + ORS)	Risk	Comment
1 to 7	Low	The risk of odour is low – prepare report.
8 or 9	Medium	Borderline cases – there may be one element that can influence the score and tip it into a low or high score. In these cases, this should be explored further.
10 or 11	High	A Level 3 assessment is recommended to fully understand risk.
12	Highest	A level 3 assessment is unlikely to demonstrate risk is acceptable but may provide further illustration on the nature of the risks and/or inform on odour mitigation measures.

The Level 2 assessment for PaCE HQ is presented in Section 7.2.

6 Existing Environment

6.1 Air Quality – Odour

EPA Victoria conducts long term ambient air quality monitoring at performance monitoring stations to meet its obligations under the Air NEPM. Odour amenity is not assessed as part of routine monitoring at any of EPA Victoria's ambient air quality monitoring stations .

6.1.1 Ambient Odour Survey

SLR conducted an odour survey in publicly accessible areas in proximity of the PaCE HQ site on one occasion. The survey was performed on 20 September 2022 between 9.30 am and 11:00 am, informed in part by EPA publication " *Guidance for field odour surveillance*" (EPAV, 2021). The purpose of the survey was to assess existing odour conditions, with particular attention to paint related odours from Watty's existing operations.

6.1.1.1 Methodology

An odour survey provides a snapshot of the odour present at the observation locations at the time of the observations, and whilst the odour survey performed provides an indication of the likely impact under a variety of meteorological conditions, it cannot capture all meteorological conditions nor all operating conditions (of the odour generating activities).

The odour assessor undertaking the survey classified their perception of odour characteristics at each observation location. Each location was observed for between 10 and 60 seconds the following characteristics:

- intensity (strength)
- character (description, likely source)
- presence (duration).

6.1.1.1.1 Odour Intensity

In the absence of an Australian Standard for rating odour intensity, odour practitioners in Australia generally refer to the German method, VDI 3882:1992 Part 1 *Olfactometry: Determination of Odour Intensity* (VDI 3882, 1992). This assigns an intensity level as provided in Table 2.

Table 2 VDI 3882 Odour Intensity Scale

Intensity Level	Description
0	Not perceptible
1	Very weak
2	Weak
3	Distinct
4	Strong
5	Very strong
6	Extremely strong

While VDI (1992) remains the most commonly referred to standard by Australian regulatory authorities, EPAV (2021) introduces a method that represents a departure from the seven level intensity scale, replacing it with three descriptors as provided in Table 3.

Table 3 EPAV (2021) Odour Intensity Descriptors

Descriptor	Description
<i>No Odour</i>	No odour, or odour is not strong enough to be recognised.
<i>Subtle</i>	Odour can be recognised only when focusing. For example, by standing still, inhaling slowly and concentrating
<i>Obvious</i>	Odour is easily recognised, can be described and may be attributed to a source. The assessor can smell it without any effort or focus on it.

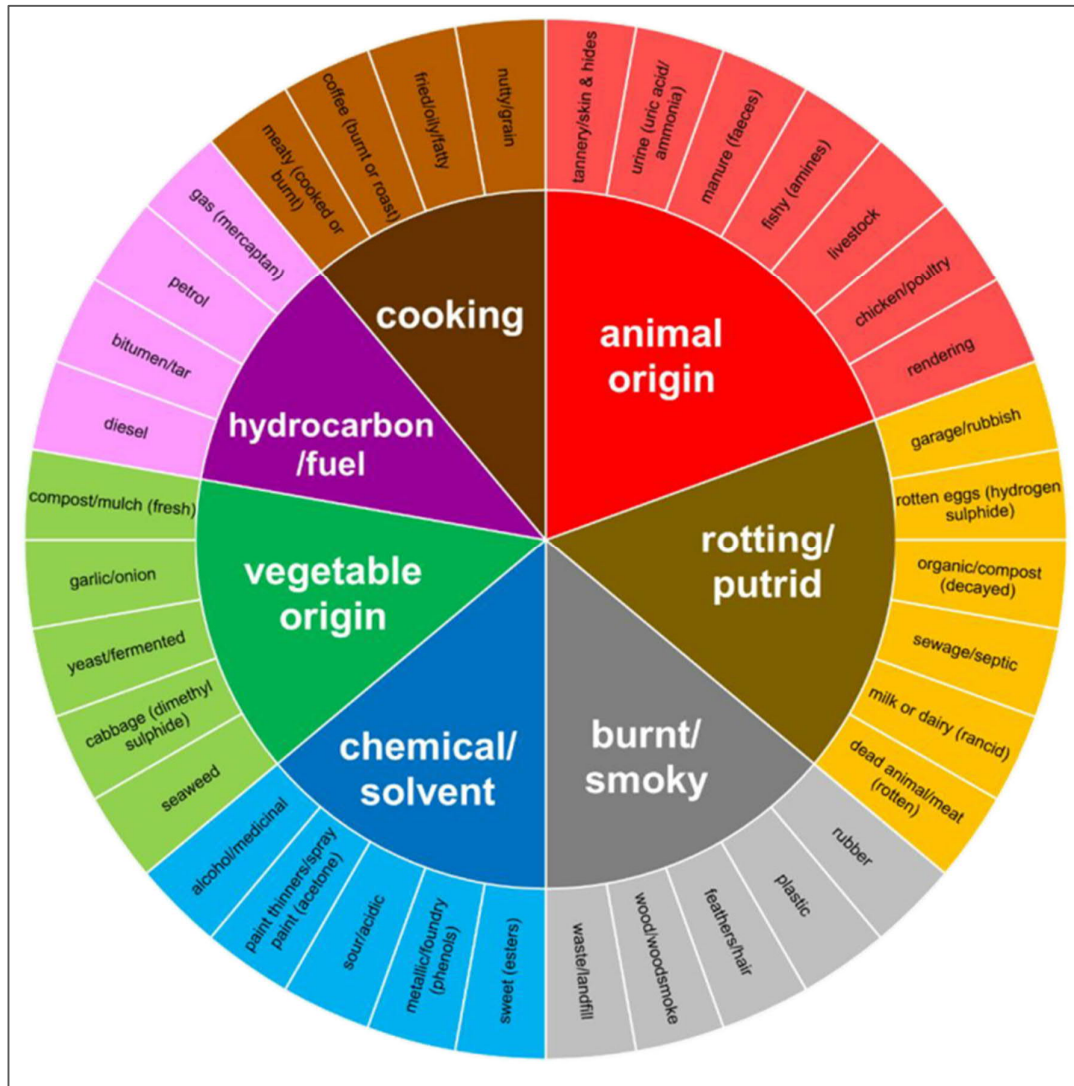
The VDI (1992) and EPAV (2021) methods may be considered to be transferable assuming that:

- intensity levels 0 is equivalent to the *No Odour* descriptor
- intensity levels 1 - 2 are equivalent to the *Subtle* descriptor
- intensity levels 3 - 6 are equivalent to the *Obvious* descriptor.

6.1.1.1.2 Odour Character

EPAV (2021) recommends developing and using a discreet series of odour descriptors for each surveillance campaign, and provides an example of an odour wheel used by EPA used to classify odour character in the field. These descriptors were not found to be helpful in characterising the odours observed during the survey, and were not used.

Figure 3 Odour Wheel



6.1.1.1.3 Odour Presence

EPAV (2021) describes odour presence as an assessment of how often an odour can be smelt during an odour observation. It determines the proportion of time an odour is present during a single odour observation. EPA recommends assessing odour presence during each odour observation and assigning a descriptor as provided in Table 4.

Table 4 EPAV (2021) Odour Presence Descriptors

Descriptor	Description
Constant	Can smell it constantly or almost constantly (> 80% of the time).
Frequent/Repetitive	On and off extended periods with recognised odour (10–80% of the time).
Transient	On and off with significant periods with no odour or no recognised odour (< 10% of the time).

6.1.1.1.4 Meteorological Observations

Observations of wind speed and wind direction were noted during the survey. Nearby Essendon Airport Bureau of Meteorology station (station ID 86038) located 9 km north-northwest of the Site reported a 9:00 am windspeed of 22 kph from the north.

6.1.1.2 Summary Observations and Conclusions

The following observations were made during the visit:

- the weather conditions were dry, sunny with a gentle breeze (estimated between 12-19 kph) from the north
- site-related odours, described as sweet and frequent/repetitive, were deemed to potentially originate from:
 - stack emissions from the building to the north of the WattyI site with plume coming to ground approximately 150 m downwind (refer Appendix A, Figure A1)
 - large, forced extraction vents servicing a building to the southwest of the WattyI site (refer Appendix A, Figure A2).
- non-site frequent/repetitive odours from nearby premises were identified including:
 - rubber odour from a conveyor manufacturing facility on Graingers Road, opposite the WattyI site (refer Appendix A, Figure A3)
 - freshly cut wood odour from a coffin manufacturer (potentially incorporating wood chipping) on Stradbroke Street, opposite the WattyI site (refer Appendix A, Figure A4 and Figure A5)
 - cooking (toast) odours from a food manufacturing facility on Braid Street, approximately 200 m west of the WattyI site (refer Appendix A, Figure A6).

Obvious and frequent/repetitive paint-related odours from the WattyI site were observed close to the site western boundary, with subtle frequent/repetitive odours detected approximately 60 m downwind of the southern boundary. The odours were perceived to be relatively localised, with no odours detected at nearby locations.

The survey results by location are summarised in Figure 4.

Figure 4 Odour Survey Results



6.1.2 Complaints

SLR understands that the current Watty operations have not received any odour related complaints.

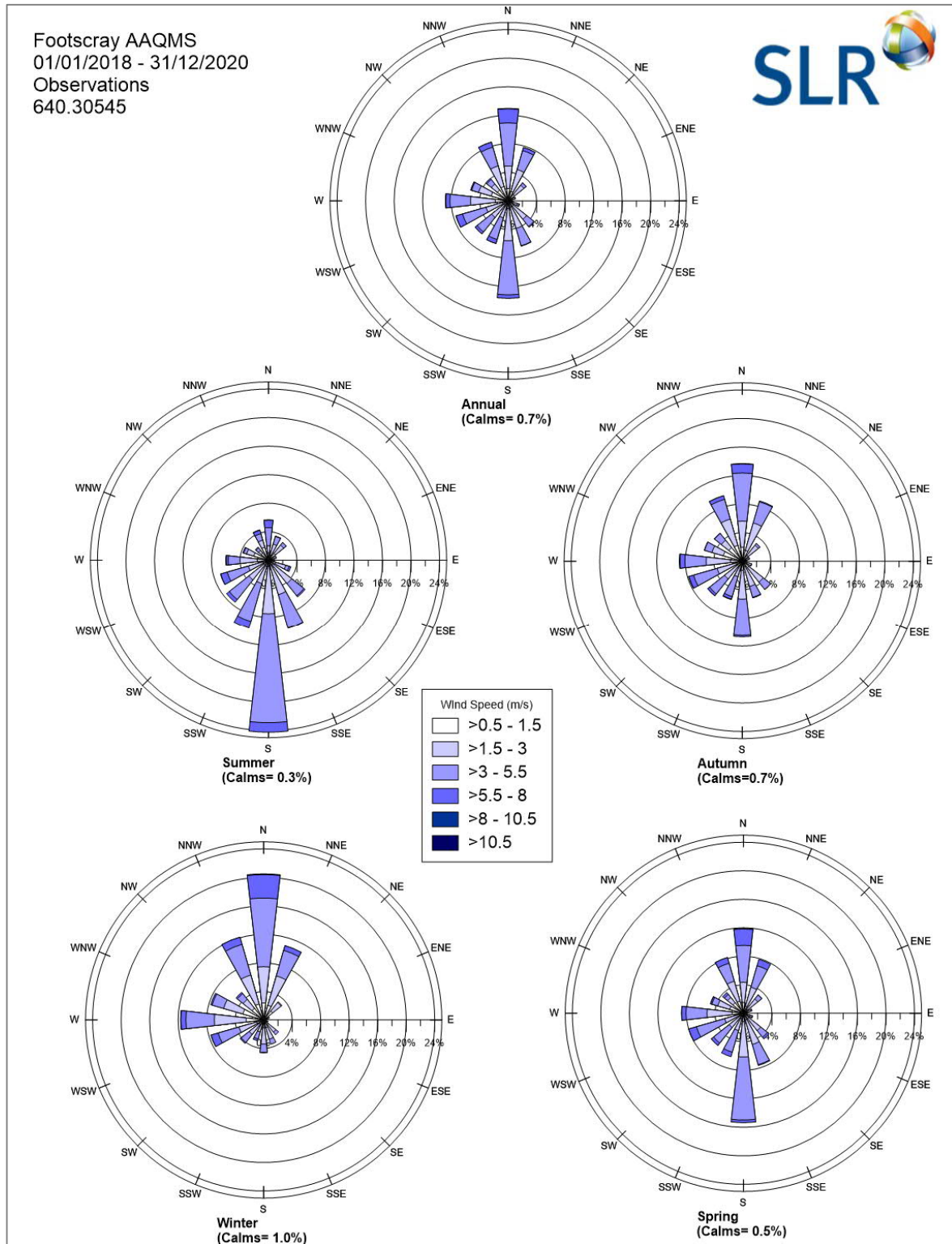
6.2 Meteorology

The nearest available meteorological monitoring station operated by the Bureau of Meteorology (BOM) is the Essendon Airport automatic weather station (AWS) (station number 086338), located approximately 9 km north-northwest of the Site. EPA Victoria's Footscray ambient air quality monitoring station (AAQMS) approximately 550 m to the west of the Site measures wind speed and wind direction and being closer to the Site is considered more representative of the Site. Wind speed and wind direction will influence the transport of any air pollutants including odour, from the Site.

Annual and seasonal wind roses generated using hourly wind data recorded by the Footscray AAQMS for the most recently available five years of meteorology, 2016-2020, are provided in Figure 5. These plots indicate the prevailing wind directions for the year and how they change between seasons.

The annual wind rose indicates the relatively high proportion of northerly and southerly winds commonly experienced in Melbourne. There are very few winds from the eastern quadrant. In summer, the winds are generally from the south, while in winter, they are from the north. Spring and autumn conditions are similar to the annual distribution. Winds from the northern quadrant, required to transport any odour emissions from the Site to nearby sensitive receptor areas approximately 20% of the time on an annual basis, rising to approximately 30% during winter months. Winds from the north-northeast, required to transport any odour emissions from the Site to the nearest sensitive receptor specifically, occur approximately 8% of the time, annually.

Figure 5 Footscray AAQMS Annual and Seasonal Wind Roses (2018-2020)



7 Odour Assessment Results

7.1 Level 1

Level 1 tests findings and outcomes are summarised in Table 1 and indicate that progression to a Level 2 assessment is required.

Table 5 Level 1 Assessment Results

Test	Discussion	Outcome
Duration of odour emissions: Do odorous emissions occur less than 200 hour per year (<2% of the time)?	Odour emissions from PaCE HQ are likely to be intermittent and faint. It is conceivable that any faint odour emissions might occur more than 200 hours per year.	Level 2 assessment required
Wind direction: Do prevailing wind patterns direct odorous emissions towards the receiving environment less than 200 hours per year (<2% of the time)?	Wind roses for Essendon Airport (Figure 5) indicate that winds required to transport potential odour emissions from PaCE HQ towards the nearest sensitive receptors (blowing from between 0° and 90°) occur approximately 20% of the time.	Level 2 assessment required
Minor odour emission source	This test applies to stationary odour sources with known, quantifiable emissions and is therefore not applicable for PaCE HQ.	N/A
Overall Outcome		Level 2 assessment required

7.2 Level 2

Cumulative Effect Test

Paint related odours from the Watty site have been identified, however, obvious odours are relatively localised to areas along the site boundary with no, or in limited cases, subtle odours observed everywhere else. There may be the potential for cumulative effects at the nearest sensitive receptors, however, it is deemed appropriate for a Level 2 assessment to proceed.

Source/Pathway/Receiving Environment Tool

Level 2 assessment findings and outcomes for the OSS, OPS and ORS tests are summarised in Table 6, Table 7 and Table 8, respectively and result in the following scores for each test:

- OSS: 0 or 1
- OPS: 3
- ORS: 3

This gives a total score of 6 or 7 corresponding to a low-risk case (refer Table 1).

Table 6 Odour Source Score

Test	Discussion	Score
Activity type: What is the nature of the odour generating activity?	Appendix A of the Odour Guideline does not include a classification matching PaCE HQ's exact description, however, it may be reasonably deemed to fall under <i>Chemical blending, mixing and storage</i> (1) or, more conservatively <i>Paint and ink production</i> (2).	1 or 2
Physical size of odour hazard: What is its area, volume, area or throughput etc.?	The Odour Guideline classifies PaCE HQ as a <i>small</i> odour source due to its physical size (one or two blocks of land) and its material usage in the hundreds of tonnes per year.	1
Type of odour emission: To what extent is there potential for the odour to be perceived negatively?	Of the three options, <i>innocuous</i> , <i>unwelcome</i> and <i>unsafe</i> SLR consider the any paint odour emitted from PaCE HQ to be <i>innocuous</i> : " <i>Most people would not be bothered by the odour; however, prolonged or frequent exposure may cause adverse reactions.</i> " or <i>unwelcome</i> " <i>Unpleasant odour range: although not likely to be perceived as toxic or unsafe, these odours are usually unwelcomed for most people.</i> "	1 or 2
Effectiveness of odour controls:	Of the three options, <i>high</i> , <i>moderate</i> and <i>ineffective</i> , SLR consider that as the system is to be completely enclosed within a building serviced by an extraction system (with provision for carbon filtration) and vertical stack venting residual odours to air at elevation, PaCE HQ as a whole demonstrates <i>high</i> effectiveness: " <i>Tangible mitigation measures in place leading to little or no residual odour; releases only due to plant failure. Fully enclosed operations with extraction and treatment equipment utilising best available technology and techniques.</i> "	-1
Odour Source Score ^a		0 or 1

a Equal to highest individual score, plus weighting as appropriate.

Table 7 Odour Pathway Score

Test	Discussion	Score
Distance: What is the separation between the source and receptor?	PaCE HQ is less than 50 m from the nearest sensitive receptors at their closest boundaries, which the Odour Guideline classifies as <i>medium</i> distance: " <i>Receiving environment is tens to hundreds of metres from source. Separation distance has not been met or only just met at the threshold distances.</i> "	2
Meteorology: Do wind patterns promote transport of odour towards receptor?	Wind roses for Essendon Airport AWS (Figure 5) indicate that winds required to transport odour emissions from PaCE HQ to nearby sensitive receptors occur approximately 20% of the time on an annual basis, rising to approximately 30% during winter months. The prevailing wind directions can be considered <i>Unfavourable</i> : " <i>High frequency (>20%) of winds from source to receiving environment.</i> "	3
Terrain and built form: To what extent does intervening topography, built form and vegetation affect odour transport between the source and receptor?	There is little topography between PaCE HQ and the nearest sensitive receptors, however, the locations are separated by a building(s). The terrain and built form can be considered <i>neutral</i> : " <i>Intervening land use zone contains other non-odorous industry or smaller businesses.</i> "	2
Hours of Operation: What is the frequency of odour emissions?	Potential odour emissions from PaCE HQ could be considered <i>moderate frequency</i> : " <i>Emissions or operations not continuous, typically confined to business hours during the day. Reasonably regular in frequency (once per day to several times per week).</i> "	2
Odour Pathway Score ^a		3

a Equal to highest individual score.

Table 8 Odour Receiving Environment Score

Test	Discussion	Score
VPP land use term or nesting group:	In accordance with the Odour Guideline, this assessment is based on the most sensitive land-use within (or proposed to be within) the separation distance or 2 km, whichever is closest. Therefore, while PaCE HQ is to be located in industrial zoned land, the most sensitive receiving land use is <i>Residential areas</i> , of high sensitivity.	3
Odour Receiving Environment Score		3

8 Conclusion

This odour assessment concludes that the odour risk posed by PaCE HQ, as proposed, is low. SLR envisages that PaCE HQ will conform with the intention of the GED and the ERS odour objective and therefore does not consider potential odour emissions to be a constraint on PaCE HQ.

9 References

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Appendix A: Odour Survey Photographs

Figure A1 Wattyl Facility Stack



Figure A2 Watty Facility Building Forced Extraction Vents



Figure A3 Rubber Conveyor Manufacturing Facility on Graingers Road



Figure A4 Coffin Manufacturing and Wood Chipping on Stradbroke Road



Figure A5 Coffin Manufacturing and Wood Chipping on Stradbroke Road



Figure A6 Food Production on Braid Street



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