



Brisbane - Main Office

743 Ann Street, PO Box 1559, Fortitude Valley QLD Australia 4006

T +61 7 3237 8899 F +61 7 3237 8833 E brisbane@rpsgroup.com.au W rpsgroup.com.au

Our Ref: PR126720

Your Ref: MCUI/33/2015

Date: 19 October 2015

Attn: Sandra Usher
Planning & Assessment
Logan City Council
PO Box 3226
LOGAN CITY DC QLD 4114

Via: Email (sandrausher@logan.qld.gov.au)

Dear Sandra

**RE: CHAMBERS PINES LIFESTYLE VILLAGE - ADDITIONAL ODOUR ADVICE
609-657 CHAMBERS FLAT ROAD, CHAMBERS FLAT
LOT 21 ON RP804908**

Reference is made to the meeting held with Council officers on 7 October 2015 to discuss the current Development Application to expand the Chambers Pines Lifestyle Village. As per the meeting, discussions focused on the use of an appropriate odour criteria for the site.

As outlined in the meeting by Mr Ben Hyde of MWA, there are a number of grounds as to why the odour criteria guidelines currently used by Council are not appropriate and the 2.5 odour unit is more representative of the odour standard currently being used to assess other projects. The meeting concluded with an agreement that MWA would prepare correspondence outlining the grounds that would support the use of a 2.5 odour unit for this project, which is attached.

The correspondence details four (4) main reasons as to why the use of a 1 odour unit exposure is inappropriate in this circumstance and the 2.5 odour unit is more appropriate and widely used. These reasons include:

1. *An odour amenity objective based upon a 1 Odour Unit exposure is an inappropriate basis for the assessment of site acceptability for residential land use.*
2. *The adopted 2.5 Odour Unit 99.5th percentile 1 hour average odour amenity objective for the purposes of the odour buffer assessment is consistent with the Queensland Odour Guideline, the State Planning Policy, the Brisbane CityPlan 2014 and more stringent than the Redlands Planning Scheme v7 2015.*
3. *The adopted 2.5 Odour Unit 99.5th percentile 1 hour average odour amenity objective is commonly applied for Planning & Environment Court matters relating to offensive character odours.*
4. *The adopted 2.5 Odour Unit 99.5th percentile 1 hour average odour amenity objective for the purposes of the odour buffer assessment is consistent with Conditions specified in the Logan City Council Development Permit for the poultry farm to the east.*

It is submitted to Council the information provided demonstrates that while *Planning Policy 3 0 – Environmental Management* provides guidance for the assessment of application, the adoption of a 1 odour unit is not appropriate.

We also note that Council indicated in our recent meeting that Planning Scheme Amendments are proposed to occur on a 6 monthly basis. We ask that upon resolution of this matter, Council issues a decision on the application separately and does not delay the development on the basis of awaiting an amendment to the Planning Scheme.



It has also been confirmed that this odour matter is the only remaining aspect of the application to be resolved before a decision can be issued

We trust this information is sufficient for your purposes. As always, please do not hesitate to contact the writer on 3606 6050 or Prue Fitzgerald on 3124 9370 should you wish to discuss this matter further.

Yours sincerely

RPS

A handwritten signature in blue ink, appearing to read 'S. Pollock', written over a faint, light blue horizontal line.

SIMON POLLOCK
Principal - Planning

cc: Paul Brumpton – Possibilities Pty Ltd



Ref: L35315/BH/15-046

19 October 2015

Ingenia Communities
c/- possibilities
GPO Box 2700
Brisbane QLD 4001

Attention: Mr Paul Brumpton

Dear Paul

**Re: Clarification of Appropriate Odour Amenity Objective –
Odour Buffer Assessment – Proposed Relocatable Home Park –
609-657 Chambers Flat Road, Chambers Flat**

Further to our meeting with Logan City Council (“LCC”) officers on 7 October 2015, MWA Environmental wishes to provide further information regarding the appropriate odour amenity criterion for assessment of the potential impact of a nearby poultry farm on the proposed residential land use at 609-657 Chambers Flat Road, Chambers Flat. (“**the subject site**”).

An issue raised by LCC officers at the meeting related to the appropriate odour amenity criterion to be applied for the purposes of assessment of the development over the subject site.

MWA Environmental has previously prepared the report *Odour Buffer Assessment – Proposed Relocatable Home Park – 609-657 Chambers Flat Road, Chambers Flat* (22 May 2015) and a subsequent *Response to Logan City Council Information Request – Odour Buffer Assessment – Proposed Relocatable Home Park – 609-657 Chambers Flat Road, Chambers Flat* (Ref. L22915/BH/15-046, 10 July 2015) (“**the odour buffer assessment**”).

The odour buffer assessment has been undertaken on the basis that:

*For the assessment of complex mixtures of odorants, the Queensland Ecoaccess Guideline: Odour Impact Assessment from Developments recommends a **2.5 Odour Units 99.5th percentile 1 hour average odour criterion** as being appropriate for the assessment of the odour amenity of a residential land use.*

The **outcomes** of the odour buffer assessment were that:

1. *If the poultry farm odour emissions are managed to a standard representative of the default emission 'K-Factor' recommended in the DEEDI Guideline then the 2.5 Odour Unit 99.5th percentile 1 hour average odour amenity guideline will be achieved at all proposed residential allotments within the Relocatable Home Park.*
2. *If the poultry farm odour emissions are managed to a standard necessary to comply with Condition 4.1.1 of the Development Permit, considering existing sensitive receptors nearer to the poultry farm, then the odour exposure at the proposed residential allotments within the Relocatable Home Park will be negligible.*
3. *The proposed sensitive land use on the subject site will not impose reverse amenity constraint upon the poultry farm beyond that which presently occurs due to existing sensitive land uses located in closer proximity to the poultry growing sheds i.e. existing residential land uses are potentially more affected by odour than the proposed Relocatable Home Park.*

As outlined at the meeting with LCC officers on 7 October 2015, an odour objective of 1 Odour Unit 3 minute average is not considered to be an appropriate basis for the assessment of an odour buffer required to achieve Performance Outcome PO7 of the *Emerging Communities Zone Code* of Logan Planning Scheme 2015 v1.1. Performance Outcome PO7 is as follows:

PO7

A Child care centre and Accommodation activities being a Caretaker's accommodation, Dual occupancy, Dwelling house, Multiple dwelling, Relocatable home park, Residential care facility or Retirement facility are designed and located to mitigate any potential adverse impacts from Rural activities, Medium impact industry, High impact industry or Special industry.

Note—Planning scheme policy 3—Environmental management provides guidance on how to achieve this outcome.

PO7 includes a Note which indicates that *Planning Scheme Policy 3 – Environmental Management* provides guidance on how to achieve this outcome but does not dictate that the Planning Scheme Policy stipulates the only way to achieve the Performance Outcome. *Planning Scheme Policy 3 – Environmental Management* references a 'Design concentration at the premises boundary to an air emission sensitive land use' of 1 Odour Unit 3 minute average which MWA Environmental notes:

- Is sourced directly from the *Logan Planning Scheme 2006* with the origin understood to be the *Victorian State Environment Protection Policy (Air Quality Management)* 2001;
- Does not include a compliance percentile i.e. specifying whether the objective applies as the maximum 3 minute average exposure for a year, or the 99.9th percentile, for example; and
- Is stated to be determined in accordance with a superseded Australian Standard (DR99306).

The odour buffer assessment has assessed odour amenity outcomes at the proposed development in accordance with the intention of PO7 based upon the 2.5 Odour Unit 99.5th percentile 1 hour average 'Queensland odour guideline'. This is considered to be a more appropriate basis for the assessment of development against PO7 than the 1 Odour Unit 3 minute average guideline referenced in *Planning Scheme Policy 3* for the following reasons:

1. **An odour amenity objective based upon a 1 Odour Unit exposure is an inappropriate basis for the assessment of site acceptability for residential land use.**
2. **The adopted 2.5 Odour Unit 99.5th percentile 1 hour average odour amenity objective for the purposes of the odour buffer assessment is consistent with the Queensland Odour Guideline, the State Planning Policy, the *Brisbane CityPlan 2014* and more stringent than the *Redlands Planning Scheme v7 2015*.**
3. **The adopted 2.5 Odour Unit 99.5th percentile 1 hour average odour amenity objective is commonly applied for Planning & Environment Court matters relating to offensive character odours.**
4. **The adopted 2.5 Odour Unit 99.5th percentile 1 hour average odour amenity objective for the purposes of the odour buffer assessment is consistent with Conditions specified in the Logan City Council Development Permit for the poultry farm to the east.**

Further details supporting the above reasons are provided in the following sections.

1. **An odour amenity objective based upon a 1 Odour Unit exposure is an inappropriate basis for the assessment of site acceptability for residential land use.**

Reason

By definition, 1 Odour Unit determined in accordance with Australian and New Zealand Standard AS/NZS 4323.3:2001 - *Stationary source emissions - Determination of odour concentration by dynamic olfactometry* is the odour concentration at which 50 percent of people can detect that an odour is present but cannot recognise or identify the odour. In other words, 1 Odour Unit is equivalent to the 'detection threshold' for a particular mix of odorants but is below the 'recognition threshold'.

The *Victorian State Environment Protection Policy (Air Quality Management) 2001* and the *Victorian Broiler Code 2009* do not apply the 1 Odour Unit 3 minute average criterion as an ultimate standard for assessing development acceptability but rather as a 'Stage 1' risk screening assessment. Where the 1 Odour Unit 3 minute average criterion is not satisfied, as commonly occurs, a 'Stage 2' assessment to consider the acceptability of the site against varied odour risk criteria is undertaken.

The Queensland *Ecoaccess Guideline: Odour Impact Assessment from Developments* (Department of Environment and Heritage Protection, 2013) (“the **Queensland Odour Guideline**”) states that:

Odour impact assessment guidelines are usually set on the basis of:

- an assumed general annoyance level, which in this guideline is taken to be 5 odour units at nose response times; or
- the concentration of odour corresponding to a perceived intensity level, which in this guideline is taken to be ‘weak’; or
- a community odour survey to measure the population annoyance.

The 1 Odour Unit concentration is one fifth of the 5 Odour Unit assumed general annoyance level (nose response time) which is used as a basis for determining the 2.5 Odour Unit 99.5th percentile 1 hour average Queensland Odour Guideline¹.

Determining acceptability of a site for residential land use based upon what is essentially a ‘no observed effects level’ (i.e. the odour detection threshold) at one fifth of a general annoyance level is not a tenable basis for development assessment, particularly when assessed as a 3 minute exposure.

Rather, residential land use can be facilitated at locations where odours are detectable at times but are not of sufficient frequency or intensity to result in unreasonable nuisance over the long term. For the purposes of the Queensland Odour Guideline a nuisance odour is taken to be at or above a ‘weak’ intensity². A 2.5 Odour Unit concentration would commonly be described as a ‘very weak’ or ‘weak’ intensity odour.

- 2. The adopted 2.5 Odour Unit 99.5th percentile 1 hour average odour amenity objective for the purposes of the odour buffer assessment is consistent with the Queensland Odour Guideline, the State Planning Policy, the *Brisbane CityPlan 2014* and more stringent than the *Redlands Planning Scheme v7 2015*.**

Reason

The odour buffer assessment has been based upon the ‘Odour concentration criterion’ stipulated in the *Ecoaccess Guideline: Odour Impact Assessment from Developments* (Department of Environment and Heritage Protection, 2013), specifically 2.5 Odour Units 99.5th percentile 1 hour average. This Queensland Odour Guideline has been in effect and has been widely accepted by local authorities and the Planning & Environment Court for the purpose of development assessment since original publication in 2004. The recently released update of the Guideline has maintained the same odour concentration criterion.

¹ Based upon a peak to mean ratio of 2:1 to convert from nose response time to 1 hour average for ground level and wake affected sources such as poultry farms)

² Categorised according to the German Standard method VDI 3882/1, Olfactometry - Determination of Odour Intensity, Part 1, 1992

The *State Planning Policy—State Interest Guideline - Emissions and Hazardous Activities* (Department of State Development, Infrastructure and Planning, July 2014) assesses Performance Outcome PO1³ with Acceptable Outcome AO1.1 which references the Queensland Odour Guideline, as follows:

Assessment criteria

Performance outcomes	Acceptable outcomes
Air and noise pollution	
PO1 Development should not result in sensitive land uses being exposed to air, noise and odour emissions from industrial uses, major sport, recreation and entertainment facilities or other noisy sport and recreation activities that have the potential to adversely impact on human health, amenity and wellbeing. Editor's note: <i>noisy sport and recreation activities include shooting and motor sport facilities.</i>	AO1.1 The use is designed to ensure that: (1) the indoor noise objectives set out in the Environmental Protection (Noise) Policy 2008 are met (2) the air quality objectives in the Environmental Protection (Air) Policy 2008, and any relevant national or international standard (for example the World Health Organisation Guidelines for Air Quality 2000) are met (3) noxious and offensive odours are not experienced at the location of sensitive land uses. Editor's note: <i>the Queensland odour impact assessment guideline, available from the Department of Environment and Heritage Protection website, provides a methodology for assessing odour impacts. www.ehp.qld.gov.au.</i> Design measures may include: (1) landscape buffers and physical barriers such as fences and that set appropriate setback/separation distances (2) adequate allotment design that reduces impacts of emissions (3) adequate construction materials and positioning of rooms and windows to mitigate impact of emissions.

The recently implemented *Brisbane CityPlan 2014* references an 'odour criteria' of 2.5 Odour Units 99.5th percentile 1 hour average for ground-level and wake-affected plumes from short stacks (e.g. for assessment of poultry farm odour). This recent planning scheme is aligned with the State Planning Policy and Queensland Odour Guideline odour criteria.

It is also noted that the *Redlands Planning Scheme v7 2015 Planning Scheme Policy 5 – Environmental Emissions* references a 7 Odour Unit 3 minute average 99.5th percentile odour criteria for the assessment of poultry farms/rural activities and other volume sources. Even discounting the allowable 0.5 percent exceedance threshold, this is seven times higher than the 1 Odour Unit 3 minute average guideline referenced in *Logan Planning Scheme Policy 3*. Although not directly comparable to the 1 hour average Queensland Odour Guideline, MWA Environmental experience dictates that the *Redlands Planning Scheme* odour criteria is less stringent than the 2.5 Odour Units 99.5th percentile 1 hour average criteria applied by MWA Environmental.

³ With similar intent to Performance Outcome PO7 of the *Emerging Communities Zone Code* of Logan Planning Scheme 2015 v1.1

3. The adopted 2.5 Odour Unit 99.5th percentile 1 hour average odour amenity objective is commonly applied for Planning & Environment Court matters relating to offensive character odours.

Reason

The 2.5 Odour Unit 99.5th percentile 1 hour average Queensland Odour Guideline is broadly applied in the Planning & Environment Court for the purposes of modelling based assessment of proposed odour emitting development and development in proximity to odour sources. A selection of relevant examples of the application of the Queensland Odour Guideline are:

Planning & Environment Court Appeal 1434 of 2010 - Wildlife Preservation Society of Queensland Logan Branch Incorporated v Logan City Council
[residential development in proximity to poultry farm]

Relevant extracts from *Second Joint Report of Odour Experts* (22 February 2012) are provided below. The air quality experts were Mr Chris Lunney (advising the appellant) Mr Paul King (advising Logan City Council) and Mr Robin Ormerod (advising Tri-Star Property Group Pty Ltd).

Areas of Agreement

“The odour criterion for sensitive locations set out in the Logan City Planning Scheme is a concentration of 1 odour unit (ou), expressed as a 3-minute average. The frequency of occurrence is not specified and would normally be taken as the 99.9th percentile. This odour criterion is substantially more stringent than the general Queensland odour guideline. If the criteria were expressed in the same terms in relation to percentile and averaging time, the Logan criterion would typically equate to a value in the vicinity of 0.25 ou (99.5th percentile, 1 – hour average) compared to 2.5 ou in the Queensland guideline.”

...

“Accordingly, compliance with that odour criterion would not be a practicable objective.”

...

“CONCLUSION

...

We agree that:

- 1. The Queensland odour guideline is the method by which we have assessed the results and it is an appropriate tool for this purpose.”*

Planning & Environment Court Appeal BD 700 of 2012 - B M Carr Holdings atf The Carr Farming Trust v Southern Downs Regional Council & Anor
[proposed poultry farm]

Relevant extracts from the Judgement of Searles DCJ (14 November 2012) are provided below. The air quality experts were Mr Georgie Galvin (advising the appellant) and Ms Claire Richardson (advising Southern Downs Regional Council).

[20] This report followed the first meeting of the experts on 30 July 2012 and records agreement on the following²⁴:-

- (a) That the Queensland Odour Guideline (QEPA 2004)²⁵ was the appropriate benchmark for odour from the farm;

Second joint air quality report 7 September 2012

[21] In this report²⁸ the experts recorded their agreement on, relevantly, the following issues:-

- (a) that the Queensland odour guideline defining a criteria of 2.5 odour units (OU) as the 99.5th percentile of hourly values over a year was the relevant odour criteria for the proposal when assessed at the nearest sensitive receptors. Those receptors are identified in the first joint report Figure 1 being the nearest existing residences;

Planning & Environment Court Appeal BD648 of 2010 - Real Property Consultants Pty Ltd v Logan City Council & Teys Bros (Holdings) Pty Ltd
[residential development in proximity to abattoir]

Although the appeal was withdrawn prior to issue of a determinative Joint Air Quality Experts Report, Mr Paul King (advising Real Property Consultants Pty Ltd), Mr Craig Beyers (advising Logan City Council) and Mr Graham Ohmsen (advising Teys Bros (Holdings) Pty Ltd) were modelling and assessing odour impacts from the abattoir against the 2.5 Odour Unit 99.5th percentile 1 hour average Queensland odour guideline.

4. The adopted 2.5 Odour Unit 99.5th percentile 1 hour average odour amenity objective for the purposes of the odour buffer assessment is consistent with Conditions specified in the Logan City Council Development Permit for the poultry farm to the east.

Reason

Development Permit for the poultry farm⁴ includes Conditions of Development which regulate lawful odour impacts from the poultry farm so as to not cause unreasonable nuisance at sensitive land uses. Condition 4.1 stipulates the same 2.5 Odour Unit 99.5th percentile 1 hour average odour criterion as adopted by MWA Environmental for the purposes of the odour buffer assessment, as follows:

4. AIR QUALITY

4.1 Achieve the following air emission standards in relation to the activity:

4.1.1 99.5% of the maximum odour levels (averaged over a one hour period and measured at any sensitive receiver) do not exceed 2.5 odour units;

The odour amenity criteria specified by LCC in the approval for the poultry farm is therefore consistent with the Queensland Odour Guideline applied by MWA Environmental for the purposes of the odour buffer assessment,

OVERALL POSITION

For the reasons stated above, it is considered that:

- A 1 Odour Unit 3 minute average criteria is an **inappropriate** basis for assessment against Performance Outcome PO7 of the *Emerging Communities Zone Code of Logan Planning Scheme 2015 v1.1*; and
- The 2.5 Odour Unit 99.5th percentile 1 hour average odour criteria applied for the purposes of the odour buffer assessment is an **appropriate** basis for assessment against Performance Outcome PO7 of the *Emerging Communities Zone Code of Logan Planning Scheme 2015 v1.1*.

⁴ MCUERA/31/2010

I trust the above clarifies the matter raised by Logan City Council officers in relation to the appropriate odour criteria for assessment against Performance Outcome PO7 of the *Emerging Communities Zone Code* of Logan Planning Scheme 2015 v1.1. If you require any further information please contact the undersigned.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Ben Hyde', with a stylized flourish at the end.

Ben Hyde

Environmental Engineer