

UNDER the Resource Mangement Act 1991 ("RMA")
IN THE MATTER of Proposed Waikato District Plan (Stage 1) Hearing 25 –
Zone Extents

**STATEMENT OF EVIDENCE OF ANDREW FERGUSON CURTIS ON
BEHALF OF KIRRIEMUIR TRUSTEE LTD**

[Submission 182]

AIR QUALITY

1. INTRODUCTION

1.1 My full name is Andrew Ferguson Curtis. I am a Technical Director at Pattle Delamore Partners specialising in Air Quality. I am a Chemical Engineer with almost 35 years' experience. I have specialised for almost 25 years in air quality, providing advice to clients in New Zealand, Australia and overseas.

Experience

1.2 I have Bachelors Degree in Chemical and Materials Engineering from Auckland University, a Post Graduate Certificate in Sustainable Management from the Open Polytechnic and a Post Graduate Diploma in Toxicology (with Distinction) from RMIT University. I am a Certified Air Quality Professional and an approved Hearing Commissioner.

1.3 I have extensive experience in dealing with the issue of reverse sensitivity as it relates to air quality, with some of my recent experience as follows:

- (a) Preparing an assessment of the potential reverse sensitivity effects on a proposed rezoning of rural land on Dominion Road in Tuakau as part of this district plan review process.
- (b) Preparing an assessment of the potential reverse sensitivity effects on a proposed rezoning of rural land in Pokeno as part of this district plan review process.

- (c) Preparing an assessment on reverse sensitivity impacts for Villa Maria in relation to a proposed private plan change in Auckland.
- (d) Preparing reports and evidence on the potential reverse sensitivity issues associated with establishing a child care facility adjacent to an industrial area.
- (e) Presenting evidence to a council hearing and the Environment Court on the potential reverse sensitivity issues associated with establishing light industrial units incorporating worker accommodation within an industrial area.

Involvement in the Proposal

- 1.4 I have been commissioned by Kirriemuir Trustee Ltd ("**KTL**") to prepare this statement of evidence to address matters raised by KTL's submission on the proposed Waikato District Plan (Stage 1) ("**PWDP**") seeking the rezoning of the balance of the properties at Geraghtys Road, Tuakau to the Residential Zone ("**Rezoning Request**" and "**Properties**"). In particular, I have been asked to prepare evidence addressing the potential implications for the Rezoning Request in relation to potential incompatibility of residential uses of the Properties with industrial activities at Envirofert Limited ("**Envirofert**").
- 1.5 I have been previously engaged by the Submitter to prepare a report on odour issues that were occurring in 2016 with Envirofert, and whether a buffer distance proposed as part of the Plan Change 16 (Tuakau Structure Plan) process was appropriate. While that plan change process was subsequently abandoned by the Waikato District Council ("**WDC**"), the background information documentation prepared for that process has been incorporated into the wider district plan review.
- 1.6 I have read all of the relevant documents associated with the PWDP.
- 1.7 I am familiar with the area and most recently visited it on 6 October 2020.

Code of Conduct

- 1.8 I confirm that I have read the Expert Witness Code of Conduct set out in the Environment Court's Practice Note 2014. I have complied with the Code of Conduct in preparing this evidence and agree to comply with it while giving evidence. Except where I state that I am relying on the

evidence of another person, this written evidence is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed in this evidence.

Scope of Evidence

- 1.9 My evidence will address the following:
- (a) What is Reverse Sensitivity
 - (b) What is Proposed
 - (c) What is the need for Separation
 - (d) Existing Odour Environment
 - (e) Potential Air Quality Impacts of the proposed Rezoning
 - (f) Comments on Section 42A
 - (g) Conclusions

2. EXECUTIVE SUMMARY

- 2.1 I have reviewed the potential for the rezoning proposed by KTL to result in any form of reverse sensitivity effects associated with air quality.
- 2.2 The location and separation distance between the land and potential sources of air discharges is consistent with that proposed by WDC in the PDP between residential land and the PWWTP.
- 2.3 I consider that it is extremely unlikely that reverse sensitivity effects could occur as the only nearby activity that could give rise to some form of emission (Envirofert) operates under a resource consent from WRC which requires it to not generate offensive odours beyond its site boundary.

3. REVERSE SENSITIVITY

- 3.1 One of the issues identified within the Section 42A Framework Report ('Framework Report') and the Tuakau Structure Plan which provided the basis for that document was the need to provide a buffer between the industrial zone and residential zones in Tuakau, and as set out in the 42A report one of the proposed District Plan objectives is to "*reduce reverse sensitivity effects*" for industry.

- 3.2 This is also mentioned in the Framework report in relation to the need for having adequate separation between incompatible land uses to avoid reverse sensitivity effects.
- 3.3 There is no definition of reverse sensitivity in the PWDP, and as it is one of the keys to the proposed zoning it is important to understand what it means.
- 3.4 There is a definition¹ in the Franklin section of the Operative Plan which states:
- REVERSE SENSITIVITY is used to refer to the effects of the existence of sensitive activities on other activities in the vicinity, particularly by leading to restraints in the carrying on of those other activities. An example of this would be where the establishment of an educational facility in proximity to a long established manufacturing plant caused the closure of the manufacturing plant as a result of the adverse effects of odour and noise.*
- 3.5 While I consider that this definition is generally acceptable, the example attached to the definition provides a very black and white picture of the potential results, which I do not consider is appropriate.
- 3.6 In New Zealand all discharges to air from industrial or trade premises are prohibited by Section 15(1)(c) of the Resource Management Act 1991 (**RMA**) unless they are expressly allowed by a national environmental standard or rule in a regional plan. Section 15 subsections (2) and (2A) similarly deal with discharges from other sources.
- 3.7 Consequently, if an industrial or trade premises had a discharge that was not consented or it was not complying with a resource consent condition or a permitted activity standard in relation to any air discharges, then any effects it might be generating would not be considered reverse sensitivity effects.

4. WHAT IS PROPOSED

- 4.1 What is proposed is described in detail in the Submission and evidence of John Olliver. However, briefly KTL is proposing that additional land to

¹ Operative Waikato District Plan, Franklin Section, Part 50 Definitions

that proposed in the PWDP as shown in Attachment A to Mr Olliver's evidence is zoned as Residential, for the reasons set out in the Submission. This would result in Residential land at its closest, approximately 400 metres from the Envirofert site, which is located in land zoned Rural.

- 4.2 The importance of this distance is discussed in a subsequent section, however for the moment it is simply noted that this distance is less than the approximately 1,000 metres separation distance guidance provided by Tonkin & Taylor in a report² prepared for the now abandoned Plan Change 16.
- 4.3 I also note that separately Envirofert (Submission 425) is also seeking that the zoning on some of the land that it has control over, and portions of the Kirriemuir owned land is changed to residential from rural. This land is generally in the order of 800 metres from the Envirofert composting operation.

5. THE NEED FOR SEPARATION

- 5.1 As has already been mentioned the intent of some form of separation distance is to avoid the potential for reverse sensitivity effects. In my experience these effects primarily occur as a result of dust or odour emissions from in this case composting activities. Chapter 22 in the PWDP sets out the rules for the Rural zone. It is generally not permissive for industrial activities. This means that any new industrial activities that wanted to establish would require a land use consent.
- 5.2 There are no specific setback requirements for industrial activities in Chapter 22. However, Section 22.3.7.2 sets out set back requirements for sensitive land use from a range of sources, including:

(vii) 300 metres from the boundary of another site containing an intensive farming activity; and

² Tonkin & Taylor: Tuakau Structure Plan – Assessment of Air Quality Effects and Separation Distances, August 2015

(viii) 300 metres from oxidation ponds that are part of a municipal wastewater treatment facility on another site.

- 5.3 In addition to the WDC requirements there is also a need in accordance with the RMA for any activity with discharges to air to comply with any requirements in the Waikato Regional Council's (**WRC**) Waikato Regional Plan (**WRP**). Chapter 6 of that document sets out the rules relating to discharges to air.
- 5.4 In terms of waste management processes, unless they were operational when the plan was notified (Prior to 2007) they are considered discretionary under Rule 6.1.9.2. Based on my experience, the list includes all of the types of activities that are most likely to experience reverse sensitivity effects due to the types of discharges they emit.
- 5.5 In addition, all activities, including those specifically identified as being permitted in Rule 6.1.9.1 must meet the standard conditions set out in Section 6.1.8 which are as follows:
- a There shall be no discharge of contaminants beyond the boundary of the subject property that has adverse effects on human health, or the health of flora and fauna.*
 - b The discharge shall not result in odour that is objectionable to the extent that it causes an adverse effect at or beyond the boundary of the subject property.*
 - c There shall be no discharge of particulate matter that is objectionable to the extent that it causes an adverse effect at or beyond the boundary of the subject property.*
 - d The discharge shall not significantly impair visibility beyond the boundary of the subject property.*
 - e The discharge shall not cause accelerated corrosion or accelerated deterioration to structures beyond the boundary of the subject property.*
- 5.6 Consequently, regardless of whether an activity has an air discharge that is permitted or requires a resource consent such as EnviroFert, the outcome from an air quality point of view should be broadly the same, which is that there should be no offensive or objectionable odour or dust

effects, and consequently no potential to experience reverse sensitivity effects.

- 5.7 That having been said there is always some potential for industrial activities to generate some characteristic low level odours that are detectable in close proximity, for example a yeasty odour near a bakery or a pine like odours near sawmills.
- 5.8 Therefore, there is merit in having some separation between industrial activities and residential activities where practical, to avoid effects from these residual emissions, which, if they are meeting the standards set out in paragraph 5.5, should not give rise to reverse sensitivity effects.

6. EXISTING ODOUR ENVIRONMENT

- 6.1 There is currently only one activity in the area adjacent to the Properties that has the potential to generate air discharges that could give rise to effects on the land which forms the basis of this Request, which is Envirofert.
- 6.2 This site has in the past been a significant source of odour, which has been detected beyond the 1,000m buffer distance suggested by T&T. I understand that Envirofert has been subject to some sort of enforcement proceedings from WRC in relation to the odours.
- 6.3 However, Envirofert has recently made a number of significant process improvements which have greatly reduced the odour emissions from its site, and the character of those odours to the point where odours are generally not detectable off-site, and those that are detected are not considered offensive³. I also understand that there have been no odour complaints for approximately two years⁴ since the changes were made on site.

³ Per comms Ken Whyte

⁴ Per comm Donovan van Kekem. air quality consulting working for Envirofert

- 6.4 EnviroFert is also going through a consenting process with WRC, and the air quality assessment⁵ prepared for EnviroFert for that process concluded in Section 6.3.3 that *“the proposed operation will also be able to internalise any offensive odours produced to within the site boundary”*.
- 6.5 The boundary of this Rezoning Request is approximately 380 m from the leachate storage pond and more than 500 metres from the active composting areas on the Envirofert site. These distances are greater than the buffer distances discussed in paragraph 5.2 and therefore should be protective of any residents in the land that is the subject of this submission.
- 6.6 The effectiveness of these proposed changes have also been independently assessed by Jacobs⁶ for WRC as part of the consenting process, who concluded *“If the proposed odour mitigation measures are implemented at the site then the potential odour effects on neighbouring properties will be acceptable.”*

Tuakau Protein

- 6.7 Tuakau Protein is also located is located approximately 1,000m from the Properties and made a submission (1353) opposing the Rezoning Request because it would encroach on the 1,000 metre separation distance it is seeking.
- 6.8 Based on measurements that I have taken, and the latest Structure Plan attached to the evidence of Mr Broekhuysen, the distance between Tuakau Proteins site boundary and the closest residence is approximately 950 metres.
- 6.9 The difference between 950 metres and 1,000 meters is immaterial from an odour perspective, and therefore the small encroachment will make no difference to the potential for reverse sensitivity effects.

⁵ NZ Air, Air Discharge Assessment Envirofert – Compost and managed Landfill, 74 Geraghtys Road, Tuakau, 12 December 2018

⁶ Jacobs, Envirofert Resource Consent Application Review, Air Quality Technical Review, 08 June 2020

- 6.10 In any event if Tuakau Protein is meeting the requirements of its resource consent and not resulting in offensive or objectionable odours, there is no potential for reverse sensitivity effects to occur.

7. POTENTIAL AIR QUALITY IMPACTS OF THE PROPOSED REZONING

- 7.1 In my opinion the only air quality related effects that might occur from the proposed rezoning of rural land to residential are reverse sensitivity effects from odour or dust.
- 7.2 I do not consider that the potential for reverse sensitivity effects from dust will be any different to that which might occur as a result of the far more extensive rezoning proposed by WDC in the PWDP in the area around Buckland Road.
- 7.3 With respect to the potential for reverse sensitivity effects from odour, the rezoning proposed by WDC in the PWDP in the area southwest of Buckland Road will potentially result in residences being built just over 300 metres from the ponds associated with the Pukekohe wastewater treatment plant (PWWTP).
- 7.4 While I am not aware of any specific odour issues with the PWWTP, WWTP's in general do have potential to generate a very characteristic odour off-site even when they are well run, and therefore a separation distance around the PWWTP is considered appropriate, and I consider 300 metres is reasonable based on my experience. I note that in the event of a process upset on the PWWTP, it is likely that odours could be experienced beyond this separation distance.
- 7.5 Consequently, if WDC is comfortable that moving the residential areas significantly closer to the PWWTP will not give rise to the potential for reverse sensitivity effects then there is no reason to believe that the rezoning proposed by KTL will give rise to reverse sensitivity effects, when it is located further from the only potential source of odour (Envirofert).
- 7.6 In any event, if Envirofert is operating in accordance with its resource consent then it should not be resulting in odours or dust beyond its site boundary that causes an objectionable effect, and if it does receive complaints related to the residual odours from its operation these should not be considered a reverse sensitivity effect.

8. COMMENTS ON SECTION 42A REPORT

8.1 I have reviewed the relevant sections of the Framework Report, and consider that with respects to the Request, the separation distance proposed is suitable to avoid the potential for conflict between what could be considered incompatible activities.

9. CONCLUSION

9.1 I have reviewed the potential for the rezoning proposed by KTL to result in any form of reverse sensitivity effects associated with air quality.

9.2 The location and separation distance between the land and potential sources of air discharges is consistent with that proposed by WDC in the PDP between residential land and the PWWTP.

9.3 I consider that it is extremely unlikely that reverse sensitivity effects could occur as the only nearby activity that could give rise to some form of emission (Envirofert) operates under a resource consent from WRC which requires it to not generate offensive odours beyond its site boundary.

Andrew Ferguson Curtis

12 February 2021