BEFORE THE MANAWATU-WANGANUI REGIONAL COUNCIL

UNDER	the Resource Management Act 1991 (the Act)
IN THE MATTER	a review of conditions under section 128(1)(a)(iii) and a change of conditions under section 127 of the Act of the Horowhenua District Council's resource consents for discharges at the Levin Landfill.

SUPPLEMENTARY REPORT OF DEBORAH RYAN,

ASSOCIATE AIR QUALITY CONSULTANT

21 September 2016

A SCOPE

1 My full name is Deborah Anne Ryan.

2 I prepared the S42A report on air quality matters, which has been pre- circulated and I understand can be taken as read.

3 I note that there has been a large amount of agreement reached on air quality aspects of this consent review as summarised in the Whakawatea Joint Witness Statement from the expert conferencing[1]. Areas of agreement have resulted in additional conditions to those proposed in the review being accepted, which will be of benefit for providing more comprehensive management of odour at the landfill site, for example, the new condition 3(p) requiring an Odour Management Plan.

4 This supplementary report is to address matters that have arisen from the evidence circulated by the Horowhenua District Council (HDC) since my report was finalised and matters raised at the hearing. These matters largely relate to clarification of conditions as currently proposed by Andrew Bashford in his S42A report[2]. The matters of clarification relate to the evidence of Dr Boddy, Mr Edwards and Mr Landmark as discussed below.

B DOUG BODDY

5 I reviewed Dr Boddy's evidence with reference to Andrew Bashford's recommended condition set and agree that Dr Boddy's suggested changes are all helpful, representing relatively minor clarifications and/or consequential changes for consistency. These minor changes relate to the conditions as listed in paragraph 8.7 of the HDC's legal submissions, in particular conditions: 3(e), (f), (g), (l), (m) and (p).

6 Regarding condition 3(e), I note that for consistency the advice note to the condition should also be changed to methane surface monitoring rather than emission testing.

7 I particularly support Dr Boddy's suggested wording for Condition 3(d), addressed at paragraph 73(c) of his evidence, which incorporates the temporary and/or permanent cap into the requirement for intermediate cover. In my view, adding the

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[1] Tab 2, Volume 2, Resource Consent Hearing, Review of conditions and change of consent conditions – Levin Landfill.

[2] Tab 9, Volume 1, Resource Consent Hearing, Review of conditions and change of consent conditions – Levin Landfill.

temporary or permanent cap requirement will help to ensure that the intermediate cover system is capable of achieving containment of landfill gas (and odour). I note, however, that what constitutes a temporary or permanent cap is undefined in the proposed wording (Appendix A of HDC legal submissions). I also note that the proposed wording of the condition 3(d) uses the terminology "should," which in my view creates uncertainty and therefore an issue with the enforceability of the condition.

8 I understand that the requirement for what is an acceptable standard for permanent capping is addressed in permit 6010 and I consider that a cross reference to the relevant condition should be added for clarity. Temporary capping is, however, also undefined in the condition as proposed by HDC. Dr Boddy suggests in his evidence that these terms be defined through the Odour Management Plan (OMP), but he also provides an example on the 3rd paragraph on page 21 as to how temporary cap could be defined, which includes a minimum depth of 500 mm of a low permeability material. In my view, more certainty would be provided by adopting this definition directly in the condition rather than leaving definition to the OMP (or an advice note).

9 I note that in the S42A report Andrew Bashford made recommendations for an additional condition requiring an Odour Management Plan (OMP) and specified certain minimum requirements as condition 3(p). I note that Dr Boddy at his paragraph 73(a) has recommended what he considers should be in the OMP, and that these matters go further in some respects compared to what is in the proposed condition 3(p). In my view, it would be useful to incorporate the additional aspects, as outlined by Dr Boddy, to provide for a more comprehensive OMP. For example, under (i) Dr Boddy suggests that landfill phasing should be described including the design and collection efficiency of the gas extraction; under (ii) Dr Boddy suggests that the OMP should include operating, maintenance and breakdown procedures for the biofilter and flare; and under (vi) a complaint procedure. In my view, these are all helpful additions to help ensure that the OMP comprehensively addresses the issue of odour.

10 I note that currently there is no requirement by way of a condition to operate the automatic weather station at the site. Since this monitoring is key to the ongoing management of the site, and is needed to provide information for odour and methane monitoring and complaint investigation, it would be helpful if this was also made a requirement of the consent conditions.

C HYWELL EDWARDS

11 I reviewed Mr Edwards' evidence with reference to Andrew Bashford's condition set and Dr Boddy's evidence. I note that for Condition 3(d) Mr Edwards' wording on page 47 is not consistent with Dr Boddy's at paragraph 86. As per Appendix A of the HDC legal submissions, HDC does not agree with the exclusion of raw sand as an intermediate cover, although the current proposed HDC wording does not mention sand as being incorporated in the intermediate cover. I note that the exclusion of "raw sand" from the intermediate cover was agreed at air caucusing as per the Joint Witness Statement (see Question 9). My recollection is that it was our view that sand could be blended with mulched woody material and this would achieve some level of odour suppression, plus with the addition of the requirement to temporary cap as part of the intermediate cover, this would then be adequate to ensure landfill gas can be collected and controlled.

D PHIL LANDMARK

12 With reference to Mr Landmark's evidence, his paragraph 126 discusses cover material. I note he discusses only intermediate cover and final capping.

13 Temporary capping as proposed by Dr Boddy as part of the temporary cover system is not explicitly discussed. Mr Landmark alludes to a possible cap where areas will not be completed for several years in his paragraph 126(c). Mr Landmark's recommendations are at odds with the 3 months recommended by Dr Boddy for intermediate cover, which is in accordance with good practice. Because of such inconsistencies, I would recommend a good deal of clarity is provided in condition 3(d) relating to the requirements for intermediate cover and incorporating temporary and /or permanent capping with definitions of these terms.

Deborah Ryan
21 September 2016