DOC16/566696-04:MF
DA-318-12-2014 MOD 3

Ms Kerry Hamann
Senior Planner
Department of Planning and Environment
GPO Box 39
SYDNEY NSW 2001

Dear Ms Hamann

Allied Mills Pty Limited – Section 75W Application to Modify
Development Consent DA-318-12-2014 MOD 3

I am writing further to the letter from the Environment Protection Authority (EPA) to the Department of Planning and Environment (DPE) dated 15 November 2016 (Our Ref DOC16/566696-03) in which the EPA committed to provide further comments on this modification application in relation to wastewater management.

To assist DPE in assessment and determination of this modification, the EPA provides its comments on wastewater management in the attachment to this letter **(Attachment A)**. The EPA has also provided some updated recommended conditions of consent **(Attachment B)**.

Please contact the officer if you have any questions regarding the above.

Yours sincerely

16/12/16

PETER BLOEM
Manager Illawarra
Environment Protection Authority

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Attachment

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ATTACHMENT A

Water balance

The Response to Submissions (RTS) does not propose any wet weather storage in the current proposal. The original development (2005) appears to have included a 100 kilolitre storage tank. It is considered that the potential risks associated with the irrigation hydraulic loading (~ 575 mm/yr) can be managed if irrigation scheduling is implemented to ensure that soil water holding capacity is not exceeded.

The *Environment and Health Protection Guidelines - On-site Sewage Management for Single Households* (Department of Local Government, 1998) provides relevant guidance on minimum standards for effluent irrigation systems. Department of Local Government (1998) states that wet weather storage is required for effluent irrigation systems because effluent can't be irrigated when the soil is saturated as this can cause ponding and runoff.

The *Environmental Guidelines, Use of Effluent by Irrigation* (DEC, 2004) provides more specific guidance, stating:

- "Generally, it is advisable to irrigate the soil to allow a 5 to 10 mm soil water deficit. This allows for a buffer capacity in the soil should rain fall soon after an irrigation event."
- "The design must allow for adequate resting periods between irrigation to avoid rainfall runoff. For most plant systems, a soil moisture deficit of at least 30 mm should be allowed to accrue before further irrigation takes place."

No details are provided regarding irrigation scheduling. It may not be possible to allow a soil water deficit to accrue under the proposal as there is no provision for wet-weather storage. Consequently, there is a risk of ponding and therefore pollutants mobilising via runoff or percolation during wet-weather. It should be noted that DEC (2004) advises that a monthly time step water balance model may overestimate the required wet-weather storage.

The proposal should include irrigation scheduling and wet-weather storage in line with the practices and principles of the Environmental Guidelines, Use of Effluent by Irrigation (DEC, 2004). *Consideration should be given to using a daily time step water balance model to inform wet-weather storage sizing.*

Other issues

The phosphorus balance provided includes plant uptake, but it is unclear whether vegetation will be harvested from the reuse area to remove phosphorus.

Plant phosphorus uptake should only be included in the phosphorus balance where stored phosphorus is removed through plant harvesting.

Installation of a diversion bank around the irrigation area was recommended by the proponent to divert upslope runoff, but it is unclear whether this recommendation will be adopted.

The recommendation to install diversion bund above the irrigation area to divert upslope runoff should be adopted.

Soil monitoring would help to identify and manage potential impacts of effluent irrigation.

The proponent should provide details of an ongoing soil monitoring program in line with the practices and principles of the Environmental Guidelines, Use of Effluent by Irrigation (DEC, 2004). *The monitoring program design, intensity and frequency need only be commensurate with the residual risks posed by the proposal*

ATTACHMENT B

Recommended conditions of consent

1. Effluent application must not occur in a manner that causes surface runoff.

2. Spray from effluent application must not drift beyond the boundary of the premises.

3. Pasture or fodder crops must not be harvested before the effluent utilisation area has dried.

4. The quantity of effluent/solids applied to the utilisation area must not exceed the capacity of the area to effectively utilise the effluent/solids.

   For the purpose of this condition, "*effectively utilise*" includes the use of the effluent/solids for pasture or crop production, as well as the ability of the soil to absorb the nutrient, salt, hydraulic load and organic material.

5. A diversion bund above the irrigation area must be constructed to divert upslope runoff from the irrigation area.

6. Irrigation scheduling and/or wet-weather storage (in line with the practices and principles of the Environmental Guidelines, Use of Effluent by Irrigation (DEC, 2004) must be included in the effluent treatment system.

7. A soil monitoring program in line with the practices and principles of the Environmental Guidelines, Use of Effluent by Irrigation (DEC, 2004) must be developed. The monitoring program design, intensity and frequency need only be commensurate with the residual risks posed by the proposal.