



Suite 2B, 14 Glen Street Eastwood,
NSW 2122
Phone: O2 9874 2123
Fax: O2 9874 2125
Email: info@airsciences.com.au
Web: www.airsciences.com.au
ACN: 151 202 765 | ABN: 74 955 076 914

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Adam Wood
Strategic Town Planner
Wagga Wagga City Council
Via email: Wood.Adam@wagga.nsw.gov.au

RE: Air Quality Study - 42 Old Bomen Road, Wagga Wagga

Dear Adam,

Todoroski Air Sciences have investigated the potential for air quality impacts to occur upon a proposed development at 42 Old Bomen Road, Wagga Wagga (hereafter referred to as the Project). The focus of this letter report is to consider the potential risk of air quality (odour) impacts due to the existing and likely future emissions sources at the Bomen Industrial Estate (BIE) upon proposed new residences at the Project site.

Background

The Project site is located approximately 6.9 kilometres (km) northeast of the Wagga Wagga town centre and less than 1km west of the BIE. The BIE is an existing industrial precinct and consists of a mixture of commercial/ industrial operations and includes various operations and facilities with the potential to generate adverse odorous emissions.

It is understood that the Project is proposing to subdivide the land at 42 Bomen Road, Wagga Wagga to allow for additional residential properties. As such there is a need to consider the potential for existing and likely future odour and air quality emissions from the BIE to impact on the Project site.

Assessment of potential impacts

To assess the likelihood of potential existing and future impacts on the Project site, air dispersion modelling using the CALPUFF model was used. The model was designed to represent the potential emission sources from within the BIE area at full capacity when occupied in future, which includes consideration of existing activities such as the Bomen Industrial Sewage Treatment Facility (BISTF).

The meteorological simulation data used in the CALPUFF model were developed from available meteorological data for the 2016 calendar year from two surrounding meteorological monitoring sites and included local land use and detailed topographical information.

The CALPUFF model was setup to include a regular grid of modelled sources across the BIE area. The air emission release parameters of the modelled sources represent relatively standard sources associated with

industrial activities as volume sources. These sources were modelled over the entire year and are assumed to emit air emissions continuously using a unit emission rate.

The modelled emissions are not defined for scheduled or non-scheduled activities, but assume all premises would have in place reasonable odour controls, suitable for operating within an industrial precinct and near a low density or unpopulated area. Whilst scheduled activities must not cause offensive odour beyond its boundary, determining if an odour is offensive depends on the receiving environment. Thus odour that may be inoffensive or acceptable odour in an industrial precinct buffer area, can become offensive simply due to the receiving area becoming more populated and the context of the receiving environment changing, as would be the case for the Project site.

The modelling results are presented in **Figure 1** and show the potential impact as colour shading in terms of the potential risk due to the modelled sources within the BIE. Blue shading indicates acceptable levels of air quality are likely to be achieved, (assuming no especially noxious or polluting activities are carried out nearby in the BIE). **Figure 1** indicates the potential for a high level of risk at the Project site.

Summary and conclusions

This report has assessed the potential for odour impacts associated with the proposed development at the Project site.

The modelling predictions indicate that the Project site is in a high risk location where odour and air quality impacts are likely to arise frequently due to emissions from the BIE when fully developed. Due to it being located in a high-risk zone for impact from the BIE, the location of the Project is not considered suitable for increased residential development.

Please feel free to contact us if you would like to clarify any aspect of this report.

Yours faithfully,
Todoroski Air Sciences



Aleks Todoroski

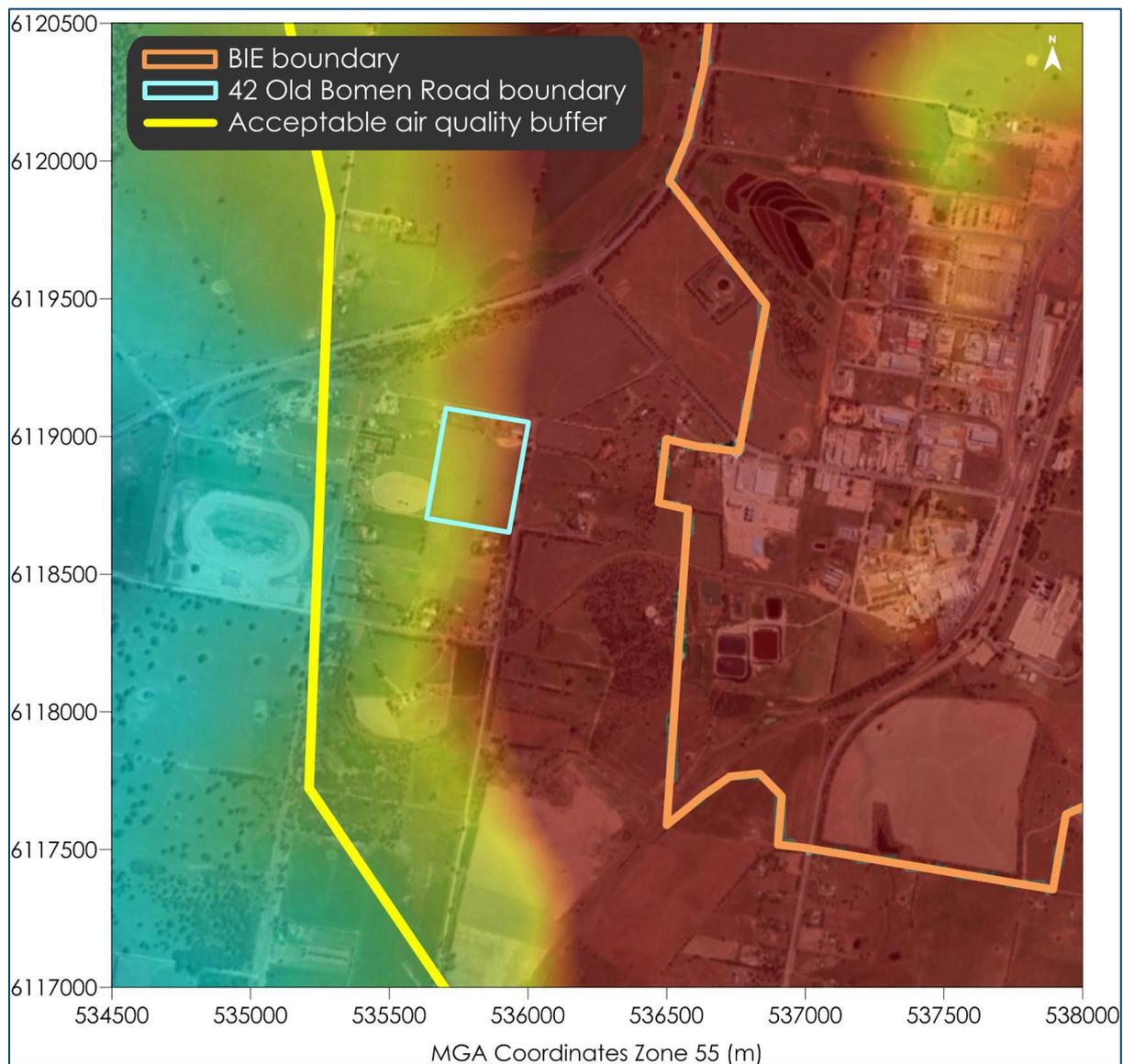


Figure 1: Predicted risk for 42 Old Bomen Road due to air emission sources at the BIE