

17 April 2024

Julia Jones
Town Planner
HDB Planning, Design, Development
Via email: julia@hdb.com.au

RE: Odour Assessment – Proposed development at 27-31 Metford Road, Tenambit

Dear Julia,

Todoroski Air Sciences has investigated the potential for odour impacts upon the proposed residential development at 27-31 Metford Road, Tenambit, New South Wales (NSW) (hereafter referred to as the Project). The focus of this letter report is to consider the potential for adverse odour impacts due to the Morpeth Wastewater Treatment Plant upon the Project site.

The report has been prepared with consideration of the New South Wales (NSW) Environment Protection Authority (EPA) documents *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (NSW EPA, 2022)*, *Technical framework Assessment and management of odour from stationary sources in NSW (NSW DEC, 2006a)* and *Technical notes Assessment and management of odour from stationary sources in NSW (NSW DEC, 2006b)*.

Project setting

The Project is located at 27-31 Metford Road, Tenambit, within an existing residential area, approximately 7.5 kilometres (km) northwest of Beresfield and approximately 9.5km east-southeast of Rutherford. Land use surrounding the Project is predominantly comprised of residential dwellings and the Morpeth Wastewater Treatment Plant located approximately 200 meters (m) northeast of the Project site.

Figure 1 presents the location of the Project with reference to the Morpeth Wastewater Treatment Plant.

Project description

The Project seeks to develop approximately 101 residential dwellings and associated infrastructure including roadways, stormwater and sewerage systems and landscaping and parkland areas at 27-31 Metford Road, Tenambit. There are currently two existing dwellings at the Project site which are proposed to be demolished prior to construction.

Figure 2 presents an indicative site layout for the Project.



Figure 1: Project setting

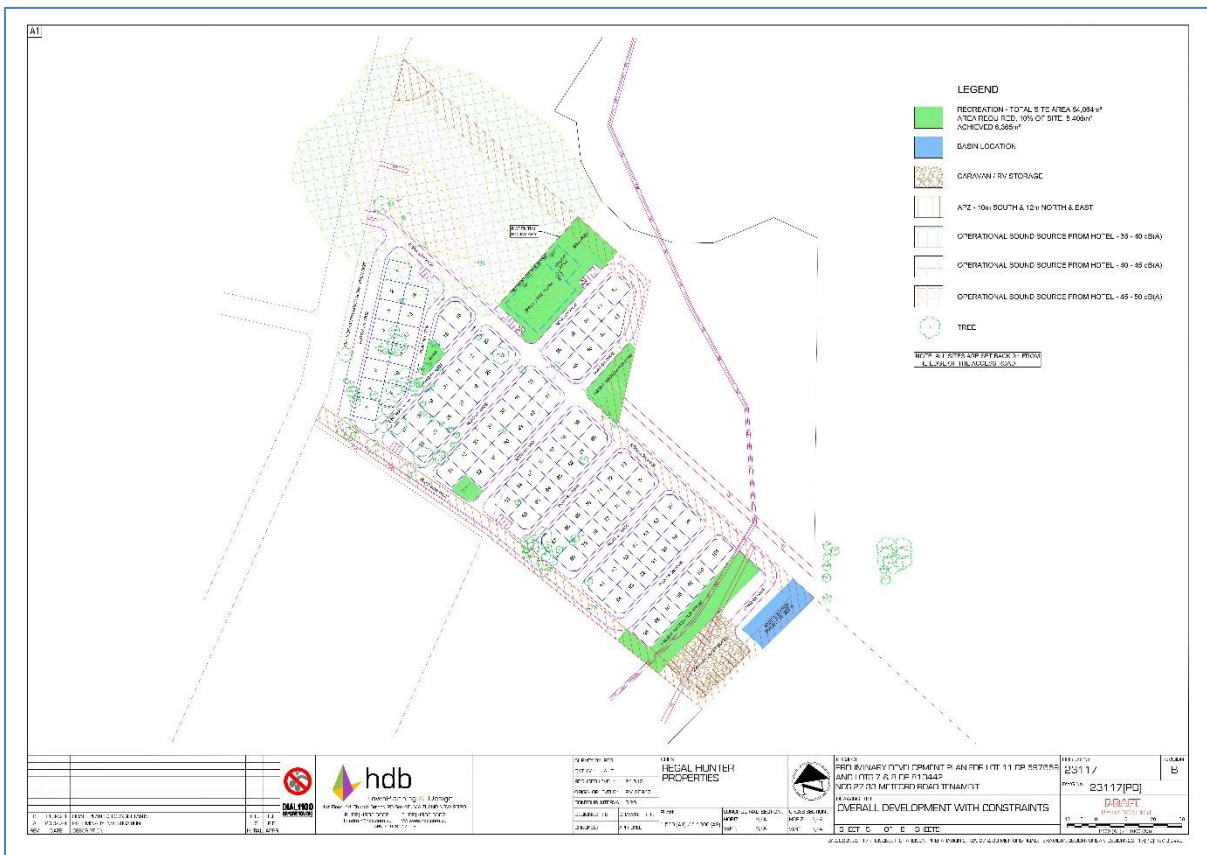


Figure 2: Indicative site layout

Source identification

The nearest potential odour source in the surrounding area with potential to impact on the Project site is the Morpeth Wastewater Treatment Plant. The Project site is recognised as being situated within the Hunter Water Wastewater buffer for the Morpeth Wastewater Treatment Plant which is based on a 400m radius zone from the treatment plant site. **Figure 3** presents the Hunter Water Wastewater 400m buffer zone with reference to the Project boundary.

The Hunter Water Wastewater buffer zone is only a guideline that sets out the desired distance that Hunter Water would like to keep from infrastructure in order to minimise the potential air, odour and noise impacts from its operations. A review of the Hunter Water Wastewater buffer zone shows that there are already a number of existing residential development within the 400m buffer located west and northeast of the Project site, and it is anticipated that the Project site should be suitable for residential development given the existing situation.

An odour assessment has been conducted to determine the potential odour impacts from the Morpeth Wastewater Treatment on the Project site and is presented in the sections below.



Figure 3: Hunter Water Wastewater Buffer (400m)

Assessment of potential air quality impacts

To investigate the potential odour impacts on the Project site, a review of the odour assessment for 37/39 Metford Road, Tenambit – Potential Odour Constraints (**Northstar, 2016**) was undertaken. The report focuses on the proposed residential development at 37/39 Metford Road, Tenambit, which is located directly north of the Project site and is located closer to the Morpeth Wastewater Treatment Plant.

The odour modelling results in the **Northstar (2016)** report indicate that the 2 Odour Unit (OU) contour encroaches on a small eastern portion of the site at 37/39 Metford Road. The report found this level of impact is considered acceptable and any potential odour impacts from the operation of the Morpeth Wastewater Treatment Plant would largely be negligible.

The Project site boundary has been overlaid with the modelling results presented in the **Northstar (2016)** report as shown in **Figure 4**. The results indicate that the Project would experience odour levels well below the 2 OU contour, less than those experienced at 37/39 Metford Road, and that the Morpeth Wastewater Treatment Facility would not result in any discernible odour impacts at the Project site.

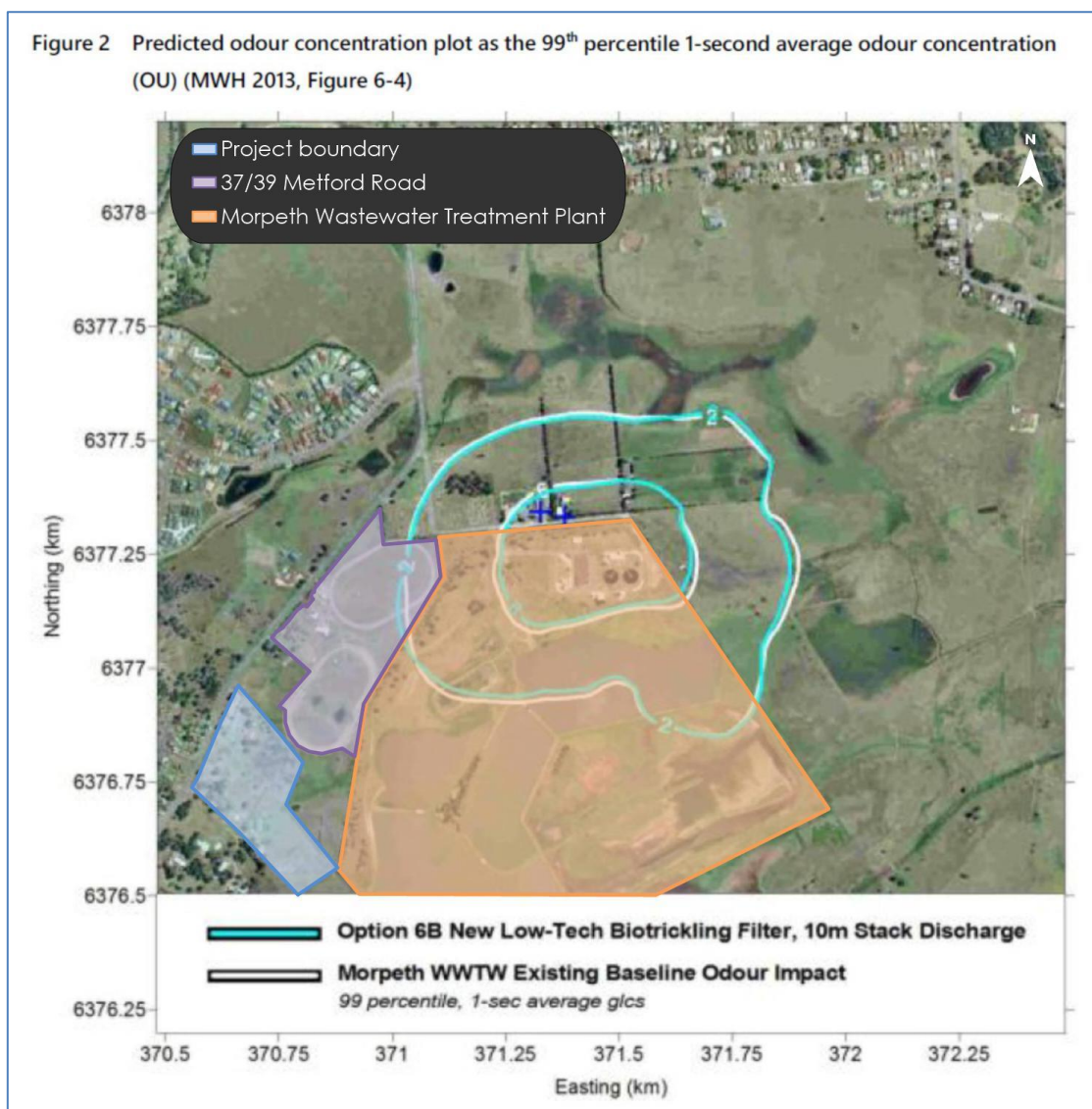


Figure 4: Predicted 99th percentile nose-response average ground level odour concentrations (OU) – (Northstar, 2016)

A review of the development application (DA16/2715:1) for the residential development at 37/39 Metford Road indicates approval was granted and the latest available satellite imagery for the area indicates that the development has been constructed and established (see **Figure 1**).

The Project site is situated at a greater distance from the Morpeth Wastewater Treatment Plant relative to the current residential lots at 37/39 Metford Road and is not predicted to experience any odour impacts (as indicated by the <2 OU contour in **Figure 4**). If compliance due to odour can be demonstrated at the residential development at 37/39 Metford Road, it would similarly be compliant at the Project site, considering the Project's location.

Summary and conclusions

This report has assessed the potential for odour impacts associated with the proposed residential development at 27-31 Metford Road, Tenambit.

The Project is situated within the Hunter Water Wastewater 400m buffer zone for the Morpeth Wastewater Treatment Plant, located approximately 200m northeast of the Project site.

A review of the **Northstar (2016)** report includes odour modelling predictions of the Morpeth Wastewater Treatment Plant and indicates that the predicted odour levels are below the criterion of 2 OU at the Project site. A review of the surrounding area indicates that the adjacent residential development, at 37/39 Metford Road has been approved. Therefore, if compliance with odour can be achieved at this location, it would also be attained at the Project site, making it suitable for residential development.

Overall, there is no adverse risk of odour impact from the Morpeth Wastewater Treatment plant on the proposed development at 27-31 Metford Road.

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

Yours faithfully,
Todoroski Air Sciences



Emilie Aragnou

References

Northstar (2016)

"37/39 Metford Road, Tenambit – Potential Odour Constraints", prepared for Metford Road Pty Ltd by Northstar, August 2016.

NSW DEC (2006a)

"Technical Framework Assessment and Management of Odour from Stationary Sources in NSW", Department of Environment and Conservation (DEC) NSW, November 2006.

NSW DEC (2006b)

"Technical Notes Assessment and Management of Odour from Stationary Sources in NSW", Department of Environment and Conservation (DEC) NSW, November 2006.

NSW EPA (2022)

"Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales", August 2022.

