17 May 2017

610.15276-L01-v1.0.docx

Goodman Property Services (Australia) Pty Ltd
Level 17, 60 Castlereagh Street
Sydney
NSW 2000

Attention: Guy Smith

Dear Guy

Modification to Lot 4A layout
Oakdale South Estate

Aim

The aim of this letter report is to assess the need for a revision to the full Air Quality Impact Assessment (AQIA) prepared by SLR in 2016 for the Oakdale South Estate (OSE) as part of a Development Application (DA) for a proposed revision to the layout of Lot 4A ("the Lot 4A DA"). No changes are proposed to the original OSE Masterplan layout, as shown in the report 610.15276-R2 v1.2.

Background

An AQIA was completed by SLR Consulting (SLR) for the OSE Project on 21 September 2016 (Report # 610.15276-R2 v1.2). The AQIA assessed the air quality impacts due to construction and operation of the OSE Project.

The construction impacts were assessed using a qualitative risk based approach. It was concluded that the impacts during construction of the OSE Project can be adequately managed using best management practices. The residual impacts after the implementation of mitigation measures are expected to be negligible.

The impacts due to air emissions associated with operations of the specific end users to be located on lots 3A, 3B, 4A and rest of the OSE, were assessed using dispersion modelling. The vehicular traffic associated with each of the end users on lots 3A, 3B and 4A were estimated and pollutant emissions due to combustion of fuel in vehicles were calculated. A summary of the vehicle movements assumed in the AQIA based on information provided to SLR at the time is reproduced in **Table 1**.

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Table 1 Vehicle Volumes Assumed in the Air Dispersion Modelling for OSE

Lot	Peak Vehicles per Hour (vph)
3B	61
3A	67
4A	233
Rest of OSE	193
TOTAL OSE	**554**

The dispersion modelling was conducted and the incremental off-site pollutant impacts due to end users on lots 3A, 3B and 4A, along with cumulative impacts with the rest of the OSE, were predicted. It was concluded from the modelling results, that the proposed operational activities on lot 4A (and the whole OSE) would comply with all relevant OEH ambient air quality criteria at all representative surrounding sensitive receptors. A summary of the pollutant concentrations predicted due to the operation of lot 4A only and the whole OSE is shown in **Table 2**.

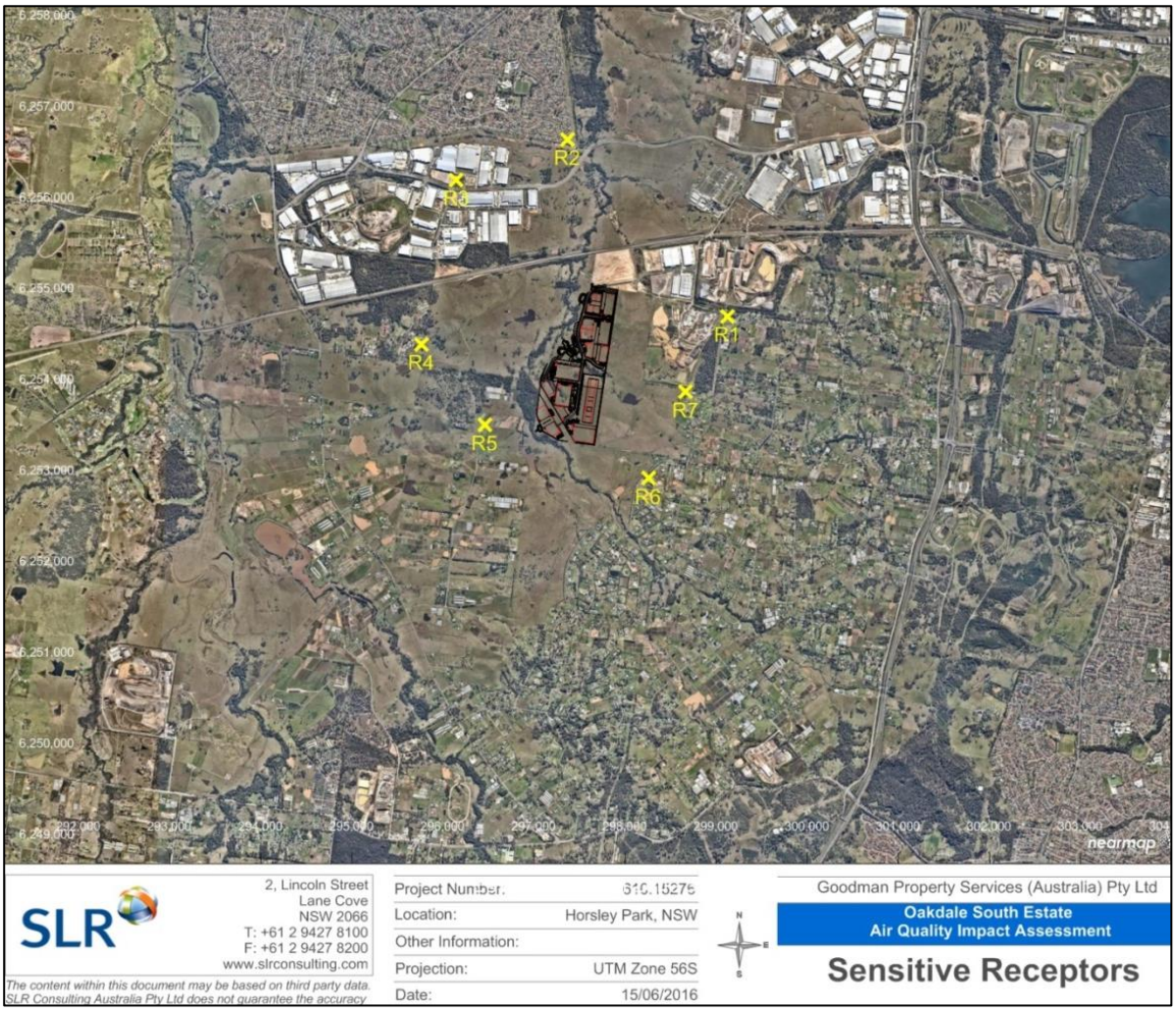
Table 2 Summary of Dispersion Modelling Results for Lot 4A and OSE Operation

Pollutant	Averaging Period (Criteria)	Contributions of Lot 4A at the Worst Affected Sensitive Receptor ($\mu g/m^3$)		Contribution of Lot 4A to the total Predicted Cumulative Concentrations (inc Regional Background)
		Incremental	Cumulative	
TSP	Annual (90 $\mu g/m^3$)	1.4	32.9	4.3%
PM_{10}	24-hour (50 $\mu g/m^3$)	4.2	44.6	9.4%
	Annual (25 $\mu g/m^3$)	0.8	16.7	4.6%
$PM_{2.5}$	24-hour (25 $\mu g/m^3$)	1.2	3.4	36.3%[a]
	Annual (8 $\mu g/m^3$)	0.2	0.6	36.3%[a]
NO_2	1-hour (246 $\mu g/m^3$)	7.1	144.0	5.7%
	Annual (62 $\mu g/m^3$)	0.2	44.6	0.7%

[a] The $PM_{2.5}$ cumulative concentrations do not include regional background because of unavailability of monitored data at St Marys Air Quality Monitoring Station (AQMS).

The maximum impacts of air emissions from Lot 4A were predicted to occur at receptors R6 and R7, which are located towards the southeast and east of Lot 4A, as shown in **Figure 1**.

Figure 1 Locations of Identified Sensitive Receptors



Discussion

As part of the Lot 4A DA, the road network for Lot 4A will remain unchanged. However, a review of the updated traffic impact assessment report for the Lot 4A DA, has identified that the projected peak hour traffic volumes for each Lot/Precinct have changed from the data used in the modelling (see **Table 3**). The total numbers of vehicles across the whole OSE has only reduced slightly however, from 554 vph to 550 vph.

Table 3 Vehicle Volumes Projected for the Lot 4A DA

Precinct	Proposed GFA (m^2)	Peak Vehicles per Hour (vph)
1	104,739	171
4	35,933	59
5	29,931	49
Rest of OSE	166,034	271
TOTAL OSE	**331,311**	**550**

SOURCE: *Traffic Impact Assessment Report, Costco Warehouse and Distribution Centre, Lot 4A Oakdale South Industrial Estate, Horsley Park*, Prepared by Ason Group for Goodman Property Services (Aust) Pty Ltd, dated 22 March 2017.

As the air dispersion modelling was based on the vehicular emissions for each individual Precinct/Lot, the differences in the projected traffic numbers shown in **Table 1** and **Table 3** have potential to alter the ground level pollutant concentrations predicted in very close proximity to the individual roads. However as the total number of vehicles across the OSE only changes slightly, total impacts predicted at the sensitive receptor locations are unlikely to change significantly from those predicted in the original AQIA (610.15276-R2 v1.2). As shown in **Table 2**, these predicted concentrations were well below guideline levels.

Conclusion

It is concluded that a full revision of the original AQIA is not required to address the proposed changes to the Lot 4A layout, because of the following reasons:

- the OSE masterplan layout and road network will remain the same;
- the total anticipated traffic volumes associated with the OSE will be slightly lower compared to the volumes assumed in the modelling performed for the development; and
- the predicted pollutant concentrations at the nearest sensitive receptors were well below guideline levels

Yours sincerely

VARUN MARWAHA
Associate Air Quality Engineer

Checked/
Authorised by: KL