

Moorebank Precinct West Stage 2 Proposal Response to Submissions

Appendix F: Health Risk Assessment



SIMTA

SYDNEY INTERMODAL TERMINAL ALLIANCE

Part 4, Division 4.1, State Significant
Development

HEALTH RISK ASSESSMENT

MPW Stage 2 Response to Submissions – Addendum Impact Assessment

27 MARCH 2017

Incorporating



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1 INTRODUCTION

SIMTA are seeking approval for the construction and operation of the Moorebank Precinct West (MPW) Stage 2 Proposal (the Proposal) as part of the second stage of development under the MPW Concept Approval (SSD 5066).

An Environmental Impact Statement (EIS) was prepared for the Proposal seeking approval under Part 4, Division 4.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). In particular, the EIS was prepared to address, and be consistent with, the following:

- The Secretary's Environmental Assessment Requirements (SEARs) (SSD 16-7709) for the Proposal, which were issued on 14 July 2016
- The relevant requirements of the MPW Concept Approval (SSD 5066) granted by the Planning Assessment Commission (PAC) on 3 June 2016
- The relevant requirements of the approval under the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) (No. 2011/6086).

The EIS was publicly exhibited, in accordance with clause 83 of the *Environmental Planning and Assessment Regulations 2000* (EP&A Regulations), between 26 October 2016 and 25 November 2016. During this exhibition period submissions were invited from all stakeholders including members of the community and government stakeholders. In response to the submissions received, and also to respond to design progression, amendments have been made to the Proposal (the Amended Proposal), as detailed below.

1.1 Report purpose

The purpose of this report is to provide further environmental assessment for the Amended Proposal and serve as an addendum to the Health Risk Assessment (HRA) (Ramboll Environ, 2016) provided within the EIS. A summary of the works included in the Amended Proposal is provided below.

1.1.1 Amended Proposal

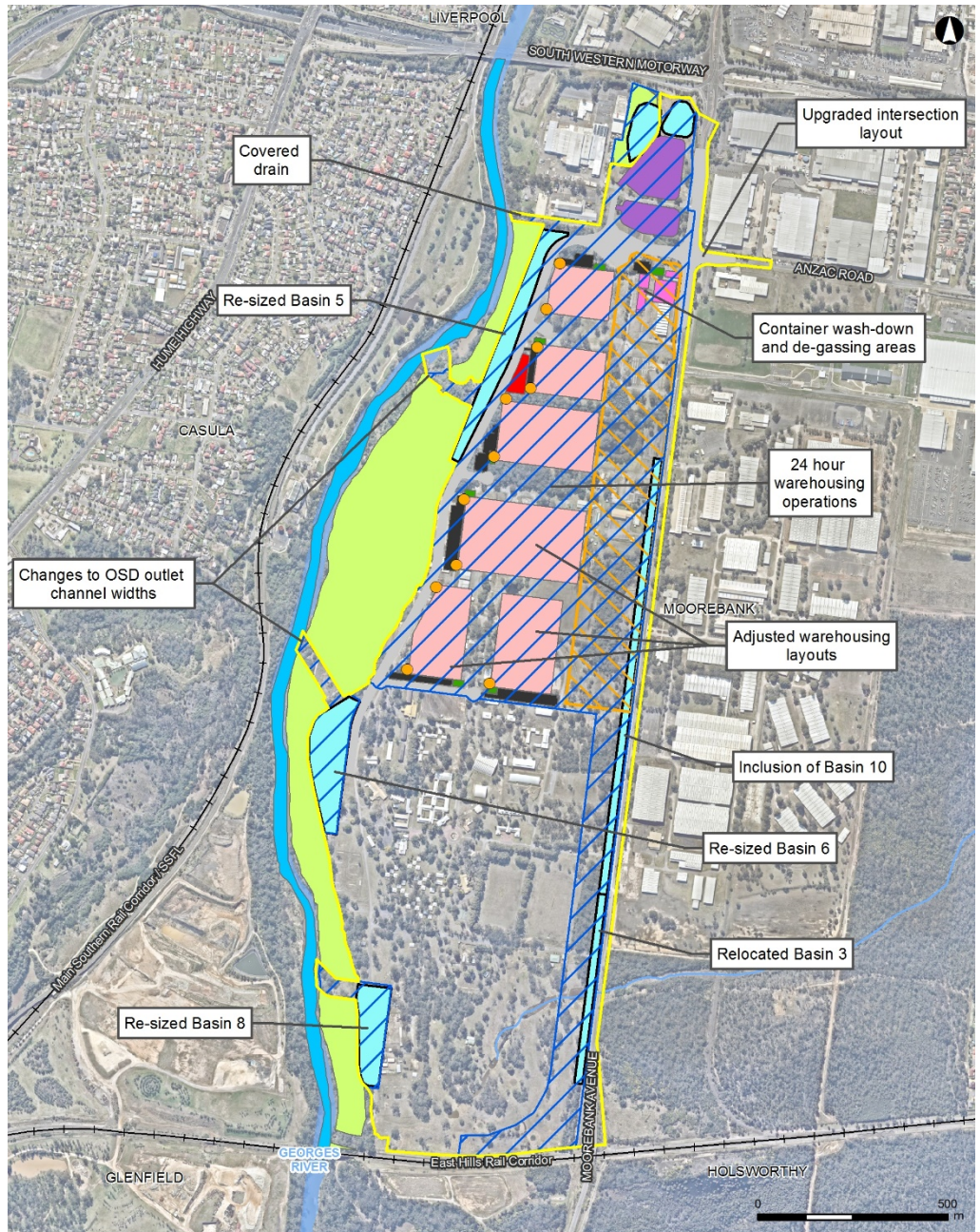
The MPW Stage 2 Proposal (the Proposal) involves the construction and operation of an intermodal terminal (IMT) facility to support a container freight throughput volume of 500,000 twenty-foot equivalent units (TEUs) per annum. The Proposal also includes the construction and operation of approximately 215,000 m² GFA, freight village (800 m²) and associated infrastructure.

The Amended Proposal alters the Proposal based on submissions received during exhibition of the EIS, consultation with key stakeholders and design development. A summary of the amendments to the Proposal is as follows:

- Alignment of the operational hours for warehouses to the IMT facility and Port freight operations to enable freight movements outside of peak traffic times.
- Alterations to the drainage design, including:
 - Inclusion of the OSD (Basin 10) and relocation of another OSD (Basin 3) along the eastern boundary of the operational area, adjacent to the western verge of Moorebank Avenue
 - Re-sizing of OSD basins along the western boundary of the operational area
 - Reduction to the widths of selected OSD outlet channels
 - Provision of an additional covered drain within the Endeavour Energy easement

- Establishment of a container wash-down facility with de-gassing area within the IMT facility
- Illuminated backlit signage within the warehousing area
- Inclusion of an upgraded layout for the Moorebank Avenue/Anzac Road intersection

The amendments to the Proposal are shown in Figure 1.



LEGEND

- | | | |
|-----------------------------|-----------------------------------|---------------|
| Amended construction area | Ancillary components and services | OSD |
| Amended operational area | Conservation area | Truck parking |
| Multipurpose Terminal | Freight Village | Office |
| Illuminated backlit signage | Georges River | Road |
| | Carpark | Warehousing |

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Scale: 1:15,000 @ A4



Figure 1: Amendments to the Proposal

2 IMPACT ASSESSMENT

2.1 MPW Stage 2 Proposal Assessment

The HRA prepared for the EIS assessed the potential human health risks on surrounding communities in accordance with approved Australian guidance for performing health risk assessments (HRA)¹.

The air quality HRA evaluated a range of health endpoints associated with the key air pollutants, including increases in mortality and morbidity and excess lifetime cancer risks. The results of the air quality HRA found that the potential increases in mortality and morbidity were low and in most cases negligible, while the excess lifetime cancer risks were within the most commonly used target risk levels specified within the guidelines.

The noise HRA investigated the impact of operational intermodal and rail noise on annoyance, sleep disturbance and cognitive impairment in local communities. Proposal related noise was found to have a minimal additional impact on the noise in the local area and no discernible impact on annoyance, sleep disturbance and cognitive impairment as a result, above existing baseline levels.

2.2 Amended Proposal Assessment

The Amended Proposal includes some functional components that differ from what was assessed in the HRA prepared for the EIS as identified in section 1.1.1 above. An assessment of the changes for the Amended Proposal are presented in this section.

2.2.1 Air Quality HRA

Hours of warehousing operations

Aligning the operational hours for warehouses to the IMT facility and Port freight operations by extending the hours from 18 hours a day to 24 hours a day will not result in an increase in emission levels for sources associated with warehousing (heating/cooling, internal transfer vehicles and forklifts). Further explanation is presented in the air quality section of the Amended Proposal report.

However, the change in warehousing operational hours will result in a change in how exposure is assessed in the HRA for workers and recreational users. As described in the HRA prepared for the EIS, adjustments were made to the annual average modelling predictions for warehousing emission sources to account for the fact that emissions occur for only 18 hours a day. This adjustment is no longer required for the Amended Proposal.

¹ enHealth. 2012a. Environmental Health Risk Assessment: Guidelines for Assessing Human Health Risks from Environmental Hazards. Department of Health and Ageing and enHealth Council, Commonwealth of Australia.

Container wash-down facilities and de-gassing areas

The Amended Proposal will include container wash-down and de-gassing areas which will also provide fumigation facilities. The proposed de-gassing system will include fan forced ventilation for container residual gas extraction and collection. Where fumigation is required, a recapture system will be used to collect and treat residual gas emissions.

The proposed de-gassing and recapture system for fumigation will use carbon filtration to control emissions of methyl bromide and other potential pollutants. The treated air from de-gassing and fumigation would be unlikely to compromise air quality goals and further quantitative assessment is not considered necessary.

Other amendments to the Proposal

The remaining amendments to the Proposal, including:

- Drainage works
- Illuminated backlit signage
- Upgraded layout for Moorebank Avenue/Anzac Road
- Adjustments to warehouse layouts

would not result in any changes to the emissions estimates presented in the air quality assessment undertaken for the EIS, therefore no further assessment is required for the HRA.

Amended Proposal results

No change to the annual incidences for the health endpoints evaluated in the HRA would occur as a result of the extended warehouse operational hours. Therefore no significant adverse health effects are expected in relation to short-term and long-term exposure in the surrounding local area. The excess lifetime cancer risks associated with the Amended Proposal remain below the acceptable risk range of 10^{-6} to 10^{-42} .

2.2.2 Noise

An assessment of operational noise impacts associated with the Amended Proposal has been undertaken for the following amendments as part of the MPW Stage 2 Response to Submissions Addendum Impact Assessment – Noise (Wilkinson Murray, 2017 (Report No. 15324-PA):

- Hours of warehousing operations;
- Drainage works;
- Container wash-down facilities and degassing facility within the Proposal site;
- Illuminated backlit signage;
- Upgraded layout for the Moorebank Avenue / Anzac Road intersection; and,
- Adjustments to warehouse layout.

² In HRA, 10^{-6} is shorthand for an increase chance of 0.000001 in 1, or one chance in a million.

Hours of warehousing operations

The dominant noise sources associated with the operation of the warehouses are trucks accessing the warehouses, via the warehouse access road along the western site boundary and the internal road network in the warehousing area.

In the EIS noise model, truck movements were modelled for both average movements and worst-case 15-minute movements for the day, evening and night time assessment periods (i.e 24-hour movements), consistent with the traffic movements presented in the EIS and the supporting operational traffic and transport impact assessment.

The traffic numbers used in the EIS and the supporting operational traffic and transport impact assessment were based on a 24-hour traffic profile not an 18-hour traffic profile. The noise modelling was conducted using the average truck volumes and worst-case 15-minute peak truck volumes derived from the temporal variation (%) of traffic over the 24-hour period. Therefore, no changes to traffic movements are anticipated and no updates are required to the noise model and as such, no changes to traffic movements has been considered as part of this assessment.

Drainage works

Drainage works as part of the Amended Proposal would not change the operational noise impacts of the Proposal, and have therefore not been included in the operational noise assessment presented in this report.

Container wash-down and degassing facilities

The container wash-down and degassing facilities have the potential to introduce additional operational noise sources to the Proposal site. The dominant noise source identified for the container degassing and wash-down area is a large pressure washer. The pressure washer is represented in the noise model as a point source, operating continuously, with a sound power level of 103 dBA. The continuous operation of the pressure washer has been used to represent a typical worst-case 15-minute period for the operation of the Proposal.

Illuminated signage

Illuminated signage as part of the Amended Proposal would not change the operational noise impacts of the Proposal, and has therefore not been assessed further as part of this report.

Upgraded layout for the Moorebank Avenue / Anzac Road intersection

The upgraded layout for the Moorebank Avenue / Anzac Road intersection would not change the operational noise impacts of the Proposal, and has therefore not been assessed further as part of this report.

The upgraded layout for the Moorebank Avenue/Anzac Road intersection would not significantly affect road traffic noise levels at sensitive receivers as there are no such receivers adjacent to either Moorebank Avenue or Anzac Road in the vicinity of the upgraded layout.

Adjustments to warehouse layout

The warehouse layout can affect operational noise levels from the Proposal as it influences the flow of trucks on the internal road network, and the warehouses themselves provide significant shielding between noise sources and sensitive receivers.

The latest layout for the warehouses and the internal road network, as shown in Figure 1-1, were imported into the noise model, and the associated noise sources

representing traffic on the internal roads and warehousing activities were updated accordingly.

The computer noise model used to predict the $L_{Aeq, 15min}$ and $L_{Aeq, period}$ ³ operational noise impacts for the Proposal was updated to reflect the above amendments. None of the amendments to the Proposal are considered likely to result in noise sources with significant L_{Amax} noise levels moving closer, or being more exposed, to the most affected residential receivers. Therefore, the predicted L_{Amax} noise levels in the sleep disturbance assessment for the EIS noise model are representative of the likely L_{Amax} noise levels for the Amended Proposal.

Amended Proposal results

The predicted $L_{Aeq, period}$ operational noise levels for the Amended Proposal are the same or lower than the predicted $L_{Aeq, period}$ operational noise levels for the Proposal, therefore the outcomes and conclusions of the Noise HRA from the EIS are still relevant and appropriate for the assessment of the Amended Proposal.

2.2.3 Mitigation measures

No additional mitigation measures are required for the construction or operation of the Amended Proposal with regards to health risk.

2.3 Conclusion

This assessment concludes that the Amended Proposal would not result in additional impacts to human health, and is consistent with the HRA provided as part of the EIS. Therefore, the outcomes and recommendations of the assessment undertaken for the HRA are still relevant and appropriate for the assessment of the Amended Proposal.

³. L_{Aeq} – The equivalent continuous sound level (L_{Aeq}) is the energy average of the varying noise over the sample period and is equivalent to the level of a constant noise which contains the same energy as the varying noise environment.

L_{Amax} – The maximum noise level over a sample period is the maximum level, measured on fast response, during the sample period