

ONE SYDNEY HARBOUR

AIR QUALITY MANAGEMENT SUB PLAN

15/09/2021 | Issue No: 3.0



Document Issue Status				
Date	Document Issue (in numbers)	Purpose and Summary of Amendments	Reviewed by	Approved by
30/07/2017	2.0	General update including LLB GMR and legislative amendments.	Tracey Wallbridge	Brian Falls
15/09/2021	3.0	General review and update	Tracey Wallbridge	Ross Trethewy

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Project Revision Status				
Date	Project Revision (in numbers)	Purpose and Summary of Amendments	Reviewed by	Approved by
25/05/2020	16	No changes	Toby Pritchard	Sam Trickett David Elliott
11/08/2020	17	Updated to Issue No2 format. App 1 updated.	Toby Pritchard	Sam Trickett David Elliott
09/12/2020	18	Section 1. removed Public Domain from scope of works App 1, updated. App 2, removed PD.	Toby Pritchard	Sam Trickett David Elliott
03/03/2021	19	Removal of basement references. Now formed under R1(R4A SSD 6964) & R2 (SSD 6965 and SSD 8892218)	Toby Pritchard	David Elliott Paul Allen
10/06/2021	20	No Changes	Serena Quek Toby Pritchard	David Elliot Nathan Smith
06/10/2021	21	Updated to issue 3.0 Updated section 1. With current conditions	Toby Pritchard	Paul Allen
11/01/22	22	Updated to include R3 (R5 SSD 6966)	Jenny Chung	Paul Allen

SCOPE OF PROJECT AND SUB PLAN

Project Details	
Scope of the Sub Plan	This Air Quality Management Sub Plan provides details of control measures relevant to the minimisation and management of dust, odour and emissions (pollutants) to the environment during site establishment, demolition, and construction of the project. Refer to Section 1.1 and 3.1 of the Project EHS Management Plan for clarification on how the EHS Sub Plans form part of the Lendlease Building (LLB) EHS management system. NOTE: The Sub Plan does not address the management of activities or impacts associated with 'occupational' (worker) exposure to dust including materials that may contain silica, or aerosols arising from the use of chemicals.
Objectives of the Sub Plan	- To identify controls to prevent emissions to the environment (air). - To identify processes to manage emissions to the environment that cannot be prevented. - To minimise the nuisance, health and ecological impacts associated with air emissions on the community, workers and environment. - To achieve compliance with regulatory and legislative requirements.
Scope of Works	This Sub Plan has been prepared based on the following scope of works: Tower R1 (R4A SSD 6964) & R2 (R4B SSD 6965) & R3 (R5 SSD 6966) - Construction of the building and facade. - Internal fitout

Key Issues and Risks

The works described above have the potential to generate dust, odour and emissions (**pollutants**) primarily associated with:

- Traffic movements and plant operation;
- **The use of chemicals and building products;**
- Storage and handling of waste materials; and

Compliance with the Project EHS Plan and this Air Quality Management Sub Plan is intended to mitigate the risks and potential impacts of these activities on air quality. If appropriate controls are not implemented and maintained on the site, the potential exists for construction related air emissions to:

- Cause nuisance or health effects to the local community **or workers;**
- Result in complaints;
- Impact on the natural environment; or
- Create unsafe conditions.

The closest **sensitive receivers and landuses** to the site are located at approximately:

- 20m east of the site, in a multilevel residential building at 38 Hickson Road.
- Childcare centres are located at 37 High Street in Millers Point, under the AON building in Kent Street, and within the T1 tower at Barangaroo South.
- The Hickson, Site office is directly adjacent to 30, 36 & 38 Hickson Road.
- The Crown Hotel and Resort is located approximately 20m east of the site at 30 Hickson Road.
- A number of finger wharves containing a mix of residential and commercial developments are 350m west of the construction area in Pyrmont, while residential areas in Balmain East are located approximately 400m west of the construction area.

The set out of the site compound including the location of the site access, internal roads, carparking, waste collection, storage and stockpile areas, and the planning of new works will consider the proximity of these receptors and the potential impacts of construction activities on their operation and property.

NOTE: Background air quality data may be required to facilitate an assessment of construction impacts on local air quality. This may necessitate background air quality monitoring for approximately 1 month, prior to the commencement of construction (if local air quality data is unavailable) and should be considered in the construction program.

Modelling of potential impacts was undertaken as part of air quality impact assessments and recommended implementation of a number of measures, which are described in the 'Mitigation Measures' table in this sub-plan.

Legislation, Project Approval and Guidelines

Federal/National:

- National Environment Protection (Ambient Air Quality) Measure (NEPM) 1998

- AS 3580.14:2014 Methods for Sampling and Analysis of Ambient Air – Meteorological monitoring for ambient air quality monitoring applications
- DR 102288 CP Methods for sampling and analysis of ambient air Part 14 - Meteorological monitoring for ambient monitoring applications
- AS 3580.1.1:2007 Methods for Sampling and Analysis of Ambient Air - Guide to Siting Air Monitoring Equipment

State:

Air quality is regulated by the EPA and the Conditions of Approval (COA) requirements.

Protection of the Environment Operations Act 1997 (POEO Act) (NSW):

- Section 129 provides that the applicant must not cause or permit the emission of any offensive odour from the premises, apart from where the emission is identified in an EPL as a potentially offensive odour and the odour was emitted in accordance with the condition of a licence directed at minimising odour.
- Sections 124/125 require that no air pollution is caused by failing to maintain/operate plant, or carry out maintenance work on plant, in a proper and efficient manner.
- Section 126 states that soil or dust must not be deposited or blown onto a public place.
- Protection of the Environment Operations (Clean Air) Regulation 2010 (NSW):
- Vehicles must not emit visible air impurities for a continuous period of 10 seconds or more (clauses 8 & 9).

Local:

Approvals

The Planning Approval conditions of approval requirements are listed in Appendix 2.

Lendlease requirements:

- GMR 4.13: Degradation or Pollution of the Environment
- GMR 4.15: Uncontrolled Release of Stored Energy (non-electrical))
- (Building) Workplace Delivery Code (WDC)

Summary of Site Controls

Works must be undertaken in accordance with the Lendlease GMRs, the Project EHS Plan, this Sub Plan and the Lendlease Building WDC. These documents detail Lendlease's approach and commitment to pro-active and responsible site management.

Site specific controls, monitoring, reporting and performance measures have been identified in this Sub Plan to prevent or minimise the impacts of construction related air emissions on the environment and community.

These may include but are not limited to:

- Identify the availability of existing air quality data data provided by the Sydney Air Quality Forecast to determine air quality and confirm background levels or if deemed appropriate and necessary will conduct baseline air quality monitoring prior to construction work commencing and may engage an consultant to monitor air quality during its activities.
- Maintain the site access and internal roads to prevent dust generation and tracking off-site; and
- **Respond immediately to community concerns or monitoring exceedances.**

Demolition, excavation and construction stage dust, odour and emission management requirements must be included in relevant specifications, contract agreements, quality assurance documents, and subcontractor work method statements.

Site inspections, monitoring and reporting will be undertaken by Lendlease and subcontractors as detailed in the Project EHS Plan and the following implementation table.

IMPLEMENTATION OF THE SUB PLAN

Control Measure	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measurement
Planning and Site Establishment					
Include information in the Site Induction.	Before works commence and ongoing	Revise Lendlease induction package to include site specific information about the potential impacts of dust and emissions on the environment and community.	CM SM	Subcontractor WMSs address dust, odour and emissions control	Site induction delivered to all workers on site.
Prepare a site specific Air Quality Management Diagram (EMD).	Prior to works commencing Ongoing review.	Prepare diagram (Appendix 1) showing sensitive receivers, monitoring locations, device type, waste/ storage/ contaminated areas etc.	CM Engineer	Diagram referenced in the planning of the site and new works. Review of diagram prior to works commencing.	Diagram covers all key areas and site-specific operation.
Install hoardings/screen barriers at the site perimeter and wind barriers at internal excavation boundaries.	Site establishment and ongoing	Install hoardings/ shadecloth giving consideration to the location of neighbours, key work zones and prevailing winds. Mark on Air Quality Environmental Management Diagram (Appendix 1). Use portable barriers to allow relocation to all work faces.	SM Foreman	Daily surveillance. Weekly/monthly inspection checklist.	No reported dust monitoring exceedances. Number of complaints.
Seal or stabilise the site access, roads, turning and parking areas using gravel or non-dust generating materials. (NOTE: recycled materials are not permitted due to the potential for contamination)	Prior to construction commencing	Retain hardstand areas where existing. Construct new stable areas. Install wheel wash/shaker facility (using recycled water where possible).	SM	Pre-construction inspection. Weekly/monthly inspection checklist.	No dust generation associated with vehicle movements. No tracking of materials onto public roads.
During Construction					

Maintain the site access and traffic routes in a clean, dust free condition.	Ongoing	Engage wet sweeper. Limited hosing of hard surfaces only. Clean up spilled soil immediately.	SM	Daily inspection of site access and local roads. Weekly/monthly inspection checklist. Inspections immediately after rainfall events.	No complaints from public or authorities. No dust generated on public roads.
Dampen down exposed areas and activities with the potential to create dust (eg excavation faces, cutting, ripping, handling areas, stockpiles etc)	At all times	Identify the risk of dust/nuisance impacts (IHRA) associated with key activities/areas. Establish appropriate watering/fogging/misting/spray systems to control dust at the source.	CM SM	Daily surveillance. Weekly/monthly inspection checklist. Monitoring results.	IHRA identifies risk for management. No complaints.
Check plant and equipment emission control devices and maintenance.	At all times	Include requirements in subcontractor documents. Documented plant condition inspections by subcontractors. Verify than plant/equipment has been regularly maintained to minimise visible smoke and emissions.	SM	Routine and random inspections of plant. Emissions not visible for >10secs (as a general rule).	Copies of service records and/ or inspection to be supplied. No complaints from site personnel or neighbours.
Turn equipment and plant engines off when not in use for extended periods.	At all times	Include in contractors WMS.	SM	Daily surveillance.	No excessive (visible) emissions or odour.
Cover trucks transporting loose material to prevent dust generation and spills.	At all times	Include in subcontractor WMS. Cover all loads. Clean up spills immediately.	SM Foreman	Vehicle inspection prior to entering and leaving the site.	No visible loose material. No community complaints.

APPENDIX 1 ENVIRONMENTAL MANAGEMENT DIAGRAM (EMD)

showing:

- Project Office (purple).
- Perimeter hoardings and dust controls: Blue (external facing hoardings), Orange (internal facing hoardings), Red (access gate). *Sourced from: OSH R1 review logistics and material handling*
- Stabilised site access: The entire site is stabilised with 2 x loading zones adjacent road networks.
- Waste management and material storage areas (odour): Remaining bin locations (light blue).
- Plant locations (parking and start up): Tower cranes and mobile plant (light green).



APPENDIX 2 APPROVAL REQUIREMENTS

TOWERS

No.	Original Ref.	Relevant Requirement	Reference
1.	C4 (SSD6964 and SSD 6965 and SSD 8892218) C24(SSD 6966)	AIR QUALITY AND ODOUR MANAGEMENT SUB-PLAN Prior to the commencement of works, an updated Air Quality and Odour Management Sub-Plan for Barangaroo South prepared by a suitably qualified person shall be submitted to the Environment Protection Authority (EPA) for review and submitted to the PCA. The Sub-Plan must comply with Environment Protection Licence number 13336, where relevant. A copy must be provided to the Secretary.	This plan Mitigation measures EPL surrendered
2.	D15 (SSD6964 and SSD 6965 and SSD 8892218) D21(SSD 6966)	DUST CONTROL MEASURES Adequate measures shall be taken to prevent dust from affecting the amenity of the neighbourhood during construction. In particular, the following measures should be adopted: a) physical barriers shall be erected at right angles to the prevailing wind direction or shall be placed around or over dust sources to prevent wind or activity from generating dust emissions; b) earthworks and scheduling activities shall be managed to coincide with the next stage of development to minimise the amount of time the site is left cut or exposed; c) all materials shall be stored or stockpiled at suitable locations and stockpiles shall be maintained at manageable sizes which allow them to be covered, if necessary, to control emissions of dust and/or VOCs/odour; d) the surface should be dampened slightly to prevent dust from becoming airborne but should not be wet to the extent that run-off occurs; e) all vehicles carrying spoil or rubble to or from the site shall at all times be covered to prevent the escape of dust or other material; f) all equipment wheels shall be washed before exiting the site using manual or automated sprayers and drive-through washing bays; g) gates shall be closed between vehicle movements and shall be fitted with shade cloth; and h) cleaning of footpaths and roadways shall be carried out regularly."	This plan Mitigation measures Excavation complete