

BARANGAROO SOUTH – BUILDING C1 AIR QUALITY MANAGEMENT PLAN

15/06/2018 | Revision No: 1



Sub Plan Revision Status				
Date	Revision	Purpose and Summary of Amendments	Reviewed by	Approved by
15/6/18	1	For issue and use	James Kennelly/ Dipankar Mukherjee	Jerome Johnson

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AIR QUALITY RELATED ACRONYMS & GLOSSARY

Air Monitoring	Sampling for and measuring of pollutants present in the atmosphere
Air Pollutants	Amounts of foreign and/or natural substances occurring in the atmosphere that may result in adverse effects to humans, animals, vegetation, and/or materials
Ambient Level	Existing level of a phenomenon without the influence of construction activities
Background Dust Level	Dust level in the absence of construction activities
BoM	Bureau of Meteorology
CAQOMP	Construction Air Quality & Odour Management Plan (this sub-plan)
COA	Development Consent Conditions of Approval
DP&E	Department of Planning and Environment (formerly DP&I)
Dust	Particles of mostly mineral origin generated by erosion of surfaces and handling of materials
Dust Concentration	The amount of a substance, expressed as mass or volume, in a unit volume of air
Emission	A discharge of a substance (e.g. dust) into the environment
EPA	Environment Protection Authority (formerly part of OEH, DECCW)
Mitigation Measures	Measures employed to reduce (mitigate) an impact
OEH	Office of Environment and Heritage
Particulate Matter	Small solid or liquid particles suspended in or falling through the atmosphere – sometimes expressed by the term particulates
PM₁₀	Particulate matter <10µm in diameter
Pollution	The alteration of air, soil, or water as a result of human activities such that it is less suitable for any purpose for which it could be used in its natural state
SMACNA	Sheet Metal and Air Conditioning National Contractors Association
TSP	Total Suspended Particulate

1. SCOPE OF PROJECT AND SUB PLAN

Project specific information	
Scope:	<p>This Air Quality management sub-plan details prevention and management measures for air quality and odour issues associated with Commercial Building C1 Barangaroo South construction activities. It defines mitigation measures to be implemented during relevant construction activities. The construction of Commercial Building C1 does not involve any excavation works.</p> <p>This sub-plan forms part of the Lendlease Building (LLB) EHS management plan, which has been updated to include requirements of the Construction Environmental Management Plan (CEMP) outlined within Condition C3 of development consent SSD 8529.</p> <p>This sub-plan must be read in conjunction with the Lendlease GMRs, the Project EHS Plan, and the Lendlease Building Workplace Delivery Code. These documents detail Lendlease's approach and commitment to pro-active and responsible site management.</p>
Objective:	<ul style="list-style-type: none"> • Ensure that construction activities are managed to meet air quality requirements as set out in environmental assessments. • Effectively manage construction remediation activities to prevent potential air quality issues.
Key issues & Risks:	<p>Air emission levels associated with the development are expected to be relatively low given that construction works will not involve any excavation works. Potential environmental impacts identified by the Commercial Building C1 Barangaroo South EIS include:</p> <ul style="list-style-type: none"> • Diminished air quality levels • Increased odours during construction <p>Dust and odour from construction is not expected to be significant, as per the Letter of Opinion – Barangaroo South Commercial Building C1 - Air Quality from AECOM (July 2017) included within the Commercial Building C1 Barangaroo South EIS. AECOM considered that in the context of the works being undertaken at the Barangaroo South site, the Building C1 works proposed are relatively minor.</p>
Key Legislation / Standards / Guidance	<p>Air quality is regulated by COA requirements and the EPA. EPA Licence 13336 no longer applies to the Barangaroo South Stage 1A area.</p> <p>Protection of the Environment Operations Act 1997 (POEO Act) (NSW):</p> <ul style="list-style-type: none"> • 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. <p>Protection of the Environment Operations (Clean Air) Regulation 2010 (NSW):</p> <ul style="list-style-type: none"> • Vehicles must not emit visible air impurities for a continuous period of 10 seconds or more (clauses 8 & 9).
Site Control Measures:	<p>AECOM considered that dust can be effectively controlled through normal construction mitigation measures such as the use of localised water sprays, and minimisation of vehicular movement over construction materials. All controls are as described in the Mitigation Measures table below.</p> <p>All controls are compliant with Lendlease GMRs.</p>

2. MITIGATION MEASURES

Ref.	Mitigation Measure	Design	Construction	Relevant Location / Activity	Relevant Approval Conditions	Responsibility	Timing
DUST AND MATERIAL MANAGEMENT							
MM1.	Implement proactive air quality management practices in accordance with existing environmental management plans, including material handling and equipment usage practices.	■	■	Entire site	Commercial Building C1 EIS	Site Manager EHS Manager	Throughout construction
MM2.	All equipment used and all facilities erected on site are to be designed and operated to control the excessive emission of smoke, dust, fumes and any other air impurity into the atmosphere.	■	■	Entire site	Commercial Building C1 ECSMP	Site Manager EHS Manager	Throughout construction
MM3.	Use of water spray to suppress any dust-generating activities, including demolition works.	■	■	Entire site	Commercial Building C1 ECSMP	Site Manager EHS Manager	Throughout construction
MM4.	Maintain all construction equipment to reduce exhaust emissions.	■	■	Entire site	Commercial Building C1 ECSMP	Site Manager EHS Manager	Throughout construction
MM5.	Cover all loads coming onto the site and departing site, including internal loads, to minimise potential spillage / dust generation. Immediately clean up any spills.		■	Entire site	Hickson Road REF, R1 B17	Site Manager EHS Manager	Throughout construction
MM6.	Use solid 2.4m or 3m high hoardings at the site perimeter, and wind barriers at internal excavation boundaries where possible.	■	■	Entire site	EIS Air quality assessments	Construction Manager	Throughout construction
MINIMISE COMBUSTION EMISSIONS OF TSP, PM10, NOx, CO AND BTEX							
MM7.	Turn engines off while parked on site.		■	Entire site	EIS Air quality assessments	Site Manager	Throughout construction
MM8.	Regularly tune and maintain equipment, plant and machinery to minimise visible smoke / emissions.		■	Entire site	EIS Air quality assessments	Site Manager	Throughout construction
MM9.	Implement site speed limits.	■	■	Entire site	EIS Air quality assessments	Site Manager	Throughout construction
MM10.	Use mains power where available and suitable.		■	Entire site	Best practice	Construction Manager	Throughout construction

3. MONITORING

Detail	Frequency	Applicable standards	Reporting	Responsibility
Visually monitor levels of dust deposition and air quality, effectiveness of dust emission controls and the impacts of any nuisance on adjoining properties.	Weekly / Fortnightly	As per checklist	Environmental Site Checklist	EHS Manager

APPENDIX A: BACKGROUND

Barangaroo is located on the north western edge of the Sydney Central Business District (CBD). The redevelopment is bounded by Sydney Harbour to the west and north, the historic precinct of Millers Point and The Rocks to the east; and by a range of new commercial development to the south.

The Barangaroo site has been divided into three distinct redevelopment areas – Headland Park, Barangaroo Central and Barangaroo South. Lendlease Millers Point (LLMP) was successfully appointed to develop Barangaroo South in 2009. Barangaroo Central and Headland Park are being managed separately by the BDA.

The footprint of building C1 is entirely within Barangaroo South, and specifically part of Stage 1A of Barangaroo South.

This management sub-plan covers construction of Commercial Building C1 Barangaroo South and is updated when needed to reflect the various stages of work. The current scope of this management sub-plan is summarised below.

Approval	Phase	Construction Activities	Incl. in sub-plan	Status
SSD 8529	Building C1	<ul style="list-style-type: none"> • construction of a seven-storey commercial building (maximum height RL 33.2), comprising retail on the ground floor and commercial on levels one to six; • provision of an outdoor terrace on level 6 of the building; • installation of photovoltaic cells on the rooftop of the building; • business and building identification signage zones; • allocation and use of 18 car spaces within the approved basement below and provision of end-of-trip facilities • public domain works; and • alterations to basement structures below. 	Yes	Pending construction certificate

APPENDIX B: PLANNING APPROVAL REQUIREMENTS

RETAIL BUILDING C1 (SSD 8529)

No.	Original Ref.	Relevant Requirement	Reference
AB-1.	C6	<p>Prior to the commencement of works, an updated Air Quality Management 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 Plan must comply with Environment Protection Licence number 13336, where relevant.</p> <p>Prior to the commencement of works, a copy of the CAQOMP must be submitted to the Secretary and the Barangaroo Delivery Authority.</p>	This sub-plan
AB-2.	D13	The Applicant must ensure the requirements of the Construction Environmental Management Plan, Construction Noise and Vibration Management Plan, Air Quality Management Plan, Waste Management Plan, Construction Pedestrian Traffic Management Plan and Erosion Sediment Control Plan required by Part C of this consent are implemented during construction.	This sub-plan