CHOOSE A COMPANY / ABN.

KINCUMBER AGED CARE FACILITY

AIR QUALITY MANAGEMENT SUB PLAN

5/08/2019 | Revision No: 3

CHOOSE A COMPANY / ABN.

Sub Plan Revision Status				
Date	Revision (in numbers)	Purpose and Summary of Amendments	Reviewed by	Approved by
30/01/17	2	General update including LLB GMR and legislative amendments.	Tracey Wallbridge	Brian Falls
23/10/2019	3	Kincumber Aged Care Facility	TP	NM

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1. SCOPE OF PROJECT AND SUB PLAN

Project Details	
Scope of the Sub Plan	This Air Quality Management Sub Plan provides strategies and mitigation measures to minimise and control the generation of dust, odour and emissions to the environment during site establishment, demolition activities 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 Lend lease Building (LLB) EHS management system.
Objectives of the Sub Plan	● To prevent emissions to the environment (air). ● To maintain current levels of local air quality during construction activities. ● To provide an adequate monitoring regime to allow real-time assessment of various dust/odour generating construction activities on the site. ● To prevent nuisance and ecological impacts (associated with air emissions) on the local community and environment. ● To achieve compliance with the project approval.
Scope of Works	This Sub Plan has been prepared based on the following scope of works: ● Site establishment including vegetation removal, topsoil stripping, office and compound setup; ● Excavation ○ Remove vegetation and top soil to the front of lot 1 ○ Bulk cut and fill to proposed levels and fill in sediment basins on Lot 1 ○ Seeding of site to disturbed areas ○ Remove sediment control once site is vegetated

Key Issues and Risks	The works described above have the potential to generate dust, odour and emissions primarily associated with ● Ground disturbance, site clearing and grubbing; ● Traffic movements and plant operation; ● Rock cutting and hammering; ● Spoil handling and stockpiling; ● 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 a nuisance or health effects to the local community; ● Result in complaints; ● Impact on the natural environment; or ● Create unsafe working conditions. The closest receptors to the site are located at approximately: ● Adjoining property (86 Scaysbrook Ave Kincumber) which is protected by a fence (generally works are not being completed in this area) ● Accross the road Brentwood Retirment Village
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:** Work Health Safety Act 2001, Work Health Safety regulation 2017, Protection of the Environment Operations ACT 1997, Environmental Planning an Asessment Act 1979, Waste Management Act 2000, Water Act 1912. **Local:** Central Coast Council Construction Specification

	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: ● Controlling dust close to its source by installing sprays and sprinkler systems to prevent off-site migration; and ● Controlling dust by wetting the ground (bring in a water truck) to minimise dust to areas of the site ● Maintaining the site access to prevent dust generation and tracking off-site. ● No blasting will be performed as part of the proposed construction works program. 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.

2. IMPLEMENTATION OF THE SUB PLAN

Control Measure	Timing	Methodology	Responsibilty	Monitoring and Reporting	Performance Measurement
Include information in the Site Induction about the risks and potential impacts of dust and emissions on the environment and community.	Before works commence and ongoing	Revise Lendlease induction package to include site specific information.	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.	Prior to works commencing. Ongoing review.	Prepare diagram showing sensitive receivers, monitoring locations, device type, waste/ storage/contaminated areas etc.	CM	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.
Limit ground disturbance to the area/s required for immediate construction.	Prior to works commencing	Identify and fence off areas to be left undisturbed. Detail excavation requirements on staging program. Undertake progressive clearing/disturbance. Incorporate requirements into WMS prepared by relevant subcontractors.	SM/ Foreman	Daily surveillance. Weekly/monthly inspection checklist. Review of program.	Staged clearing/disturbance effectively implemented. Acceptable dust levels.
Install solid hoardings (if required) at the site perimeter and wind barriers at internal excavation boundaries.	Site establishment and ongoing	Identify and install hoardings/ shadecloth giving consideration to the location of neighbours, key work zones and prevailing winds. Mark on Air Quality Site Management Plan (Appendix 1).	SM/ Foreman	Daily surveillance. Weekly/monthly inspection checklist.	No reported dust monitoring exceedances. Number of complaints.

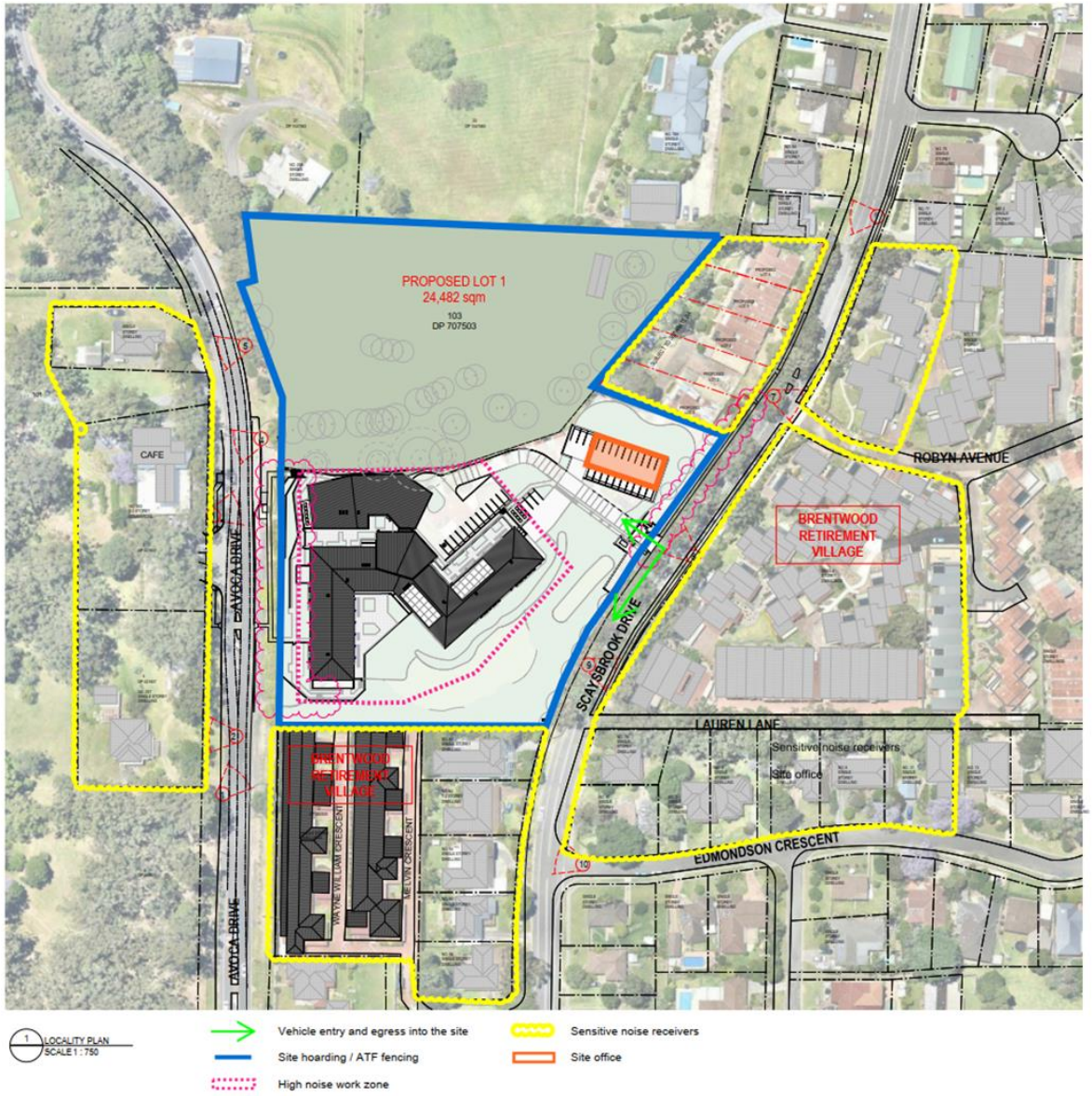
		Use portable barriers to allow relocation to all work faces.			
Seal or construct the site access, roads, turning and parking areas using gravel or non-dust generating materials.	Prior to construction commencing	Retain hardstand areas where existing. Construct new stable areas using road base as a minimum. Install wheel wash/shaker facility (using recycled water).	SM	Pre-construction inspection. Weekly/monthly inspection checklist.	No dust generation associated with vehicle movements. No tracking of materials onto public roads.
Dust Control During Construction					
Limit speed to 20km/hr on internal roads and access ways to reduce dust and vehicle emissions.	During construction	Seal haul roads outside the bulk excavation area. Install speed limit signage.	SM	Daily surveillance to monitor vehicle speed.	Minimal dust generated by traffic on construction roads/access. No speeding vehicles.
Maintain the site access and traffic routes in a clean, dust free condition.	Ongoing	Maintain shaker grid/wheel wash or employ high pressure drive-thru washbay for site heavy duty plant. Engage 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.
Avoid excavation and handing during periods of high wind and extreme (wet) weather conditions.	As required	Only enter areas that need to be worked. Work in areas away from sensitive receptors. Maintain site access controls and clean roadways. Stop work until conditions are more favourable if dust and/or tracking cannot be controlled.	SM	Constant surveillance during unfavourable conditions. Monitor meteorological reports.	No works performed during high wind or rainfall events. No complaints.

Reduce requirements for the handling and stockpiling of excavated materials.	At all times	Pre-test and validate soils to enable direct transport off-site (rather than stockpiling). Dampen down materials during handling.	SM/ Foreman	Include requirements in tenders for subcontractors. Daily surveillance of activities.	Controls maintained and effective.
Locate and maintain stockpiles to minimise wind erosion and dust.	At all times	Locate stockpiles away from sensitive receptors. Keep stockpiles to a manageable size and cover. Keep exposed surfaces moist and compacted to reduce erosion potential. Stabilise or cover stockpiles left for >4 weeks.	SM	Daily surveillance. Weekly/monthly inspection checklist.	No visible dust from stockpiles. No reported dust complaints or exceedances.
Dampen down exposed areas and activities with the potential to create dust (eg excavation faces, 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.	Limited dust generation. No complaints.
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.
Undertake progressive stabilisation and landscaping of disturbed areas.	Ongoing	Incorporate rehabilitation activities into the construction program if possible. Apply temporary and/or permanent vegetation and mulch to stabilise.	CM/SM	Weekly/monthly inspection checklist. Project planning and design meetings.	Disturbed areas stabilised. No areas left exposed for prolonged periods.
Air Quality Controls (Contamination/Hazardous materials)					

Prevent potentially contaminated dust being generated during the disturbance and handling of contaminated soil.	At all times	Identify contaminated areas on the Air Quality Management Diagram (required above). Engage a specialist environmental consultant (as required). Implement recommended controls eg spray systems. *Refer to Contaminated Soil and Groundwater Management Sub Plan.*	SM	Dust monitoring results. Soil test results.	Dust controlled. No contaminants detected in dust monitoring samples.
Implement controls for the removal and handling of hazardous building materials (eg asbestos or lead-based paints)	At all times.	Engage a specialist hygienist/environmental consultant (as required). Install appropriate dust control devices/sprays. Install appropriate monitoring equipment. *Refer to Hazardous Substances and Dangerous Goods Management Sub Plan.*	CM/SM	Air quality monitoring during and after works. Clearance by occupational hygienist.	Building and area cleared of hazardous dust. Non-detection of asbestos/ lead dust during monitoring.
Control odour generation related to contamination including Volatile Organic Compound (VOC) vapours within work areas.	At all times	Engage a specialist hygienist/ environmental consultant (as required). Implement dampening and monitoring as recommended.	CM/SM	Air vapour monitoring (and personal air monitoring if required) during and after works.	No elevated VOCs detected during works. No works performed whilst elevated VOCs are detected in work areas.
Combustion Emission Controls (TSP, PM10, NOx, CO and BTEX)					
Burning of waste on site is banned.	At all times	Address in site induction.	SM	Daily surveillance.	No fires or incineration on site.
Fit plant and equipment with emission control devices and maintain.	At all times	Include requirements in subcontractor documents. Documented plant condition inspections by subcontractors.	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.

		Verify than plant/equipment has been regularly maintained to minimise visible smoke and emissions.			
Turn equipment and plant engines off when not in use for extended periods.	At all times	Address in contractors WMS.	SM	Daily surveillance.	No excessive (visible) emissions or odour.

APPENDIX 1: SITE MANAGEMENT PLAN


PROPOSED LOT 1
24,482 sqm
103
DP 707503
CAFE
CAVOCA DRIVE
ROBYN AVENUE
BRENTWOOD RETIREMENT VILLAGE
SCAYBROOK DRIVE
LAUREN LANE
Sensitive noise receivers
Site office
BRENTWOOD RETIREMENT VILLAGE
WAYNE WILLIAM CRESCENT
MELVIN CRESCENT
EDMONDSON CRESCENT
CAVOCA DRIVE
1 LOCALITY PLAN
SCALE 1 : 750
Vehicle entry and egress into the site
Site hoarding / ATF fencing
High noise work zone
Sensitive noise receivers
Site office