

These tables set out the operational controls required to achieve the objectives and targets set out in Environmental Program 08 Air Quality Management. BBA will, as a minimum, implement the control activities and performance measures set out below.

Table OCO 8.1 Air Quality Management

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Ref	Subject	Reference	Control Activity	Responsibility	Timing	Performance Measure	Audit Check
<b>INDUCTION AND TRAINING</b>							
1.	Design Consultant briefing	CEMP 10	The Design Consultants will be briefed on the design aspects of this Control Document	Design Director	Prior to start of design.	Briefing record	
2.	Project and site induction	CEMP 13	All employees, consultants and subcontractors involved will be inducted into the environmental aspects and controls related to this Control Document.	Construction Director or Project Manager, as applicable Start up Manager for Early Works	Prior to personnel commencing work on site	Induction records	
3.	Staff Construction Environmental Management Plan induction	CEMP 13	All relevant staff will be inducted into the requirements of the Construction Environmental Management Plan and all associated documents.	Construction Director or Project Manager, as applicable	Prior to staff commencing work on site	Induction records	

**OPERATIONAL CONTROLS 08 AIR QUALITY MANAGEMENT**

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4.	Awareness training	CEMP 13 CEMP 14	<p>Conduct awareness instruction of relevant BBA staff, contractors and field personnel. Objectives of Air Quality Management awareness training include:</p> <ul style="list-style-type: none"> <li>• Dust Management Plan provisions</li> <li>• Purpose and operations of dust web cam system</li> <li>• Importance of minimising the area of exposed soil.</li> <li>• Maintaining haul road moisture levels.</li> <li>• Observing speed limits.</li> <li>• The responsibility of all staff to be aware of the potential for nuisance dust emissions</li> <li>• Reporting of observed dust emissions and direct remediation of dust emissions where practical.</li> </ul>	Project Manager	As per Training Plan	Training records	
5.	Briefings	CEMP 13 CEMP 14	Environmental briefings shall emphasize site-specific control requirements.	General Superintendent	Prior to working in a specific area	Record of Briefing. (eg SEP Briefing)	
<b>CONSTRUCTION</b>							
<b>Earthworks and topsoil stockpiles</b>							
6.	Limit exposed areas	Project Requirement	As far as is possible, plan the works to limit the area of exposed soil to the minimum required for the immediate works.	General Superintendent	Ongoing during earthworks.	Ratio of stripped area to works area.	
7.	Timing of topsoil stripping operations.	Project Requirement	As much as possible, time topsoil stripping operations when soil is moist. Also avoid days when there is the potential for wind to carry dust toward residential or commercial areas.	General Superintendent	Ongoing during earthworks.	Use of appropriate plant	

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8.	Topsoil stockpile location buffer of 100 m wherever practicable	Project Requirement	As much as possible, locate topsoil stockpiles as far away from residential and commercial areas as possible. Preferably, a minimum buffer of 100 m should be used. Where this cannot be achieved, measures should be taken to prevent wind erosion of the topsoil.	General Superintendent	Ongoing during earthworks.	Appropriate location of stockpiles	
9.	Minimise time lapse between topsoil stripping and earthworks	Project Requirement	The time lapse between stripping topsoil and the commencement of the main earthworks should be kept to the absolute minimum.	General Superintendent	Ongoing during earthworks.	Short time lapse	
10.	Complete earthworks quickly	Project Requirement	Complete earthworks as quickly as possible.	General Superintendent	Ongoing during earthworks.	Minimum time lapse	
11.	Compact surface of fill areas when left	Project Requirement	Compact the surface of fill areas when the area will be left exposed for long periods.	General Superintendent	Ongoing during earthworks.	Compacted surface of fills at appropriate times	
12.	Establish Protective Cover Quickly	Project Requirement	Establish protective cover over completed earthworks as quickly as possible.	General Superintendent	Ongoing during earthworks.	Completed earthworks protected	
13.	Water trafficked earthworks areas	Project Requirement Vic EPA Pub 480.	Water earthworks areas where they are being trafficked.	General Superintendent	Ongoing during earthworks.	Moistened haul roads	
14.	Water stockpiles in sensitive areas.	LU1, Part 3, Sect 2, 2AM6.1, pg 78, (Seq pg 91) LU2, Part 3, AM1.2, pg 19, (Seq pg 233) LU3 ,Part 3, AM1.1, pg 37, (Seq pg 276) LU4, Part 3, AM1.1, pg 38, (Seq pg 327)	Water stockpiles in sensitive areas during windy conditions where they are a source of dust.	General Superintendent	Ongoing during earthworks.	Moistened stockpiles	

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15.	Avoid contaminated run-off.	Project Requirement	Whenever watering is used as a dust suppression measure, care will be taken to ensure it does not create contaminated run-off.	General Superintendent	Ongoing during earthworks.	No contaminated run-off	
16.	Out of hours dust control.	Project Requirement	Watercarts are to be available out of hours in situations where unacceptable amounts of dust could be generated eg. Summer months, winds and extended periods without rain. Arrangements should be in place to be able to mobilise these watercarts at short notice.	General Superintendent	Project Duration	Dust mitigated out of hours to minimised impact on sensitive receivers	
17.	Modify or suspend activities in extreme conditions.	LU1, Part 3, Sect 2, 2AM6.1, pg 78, (Seq pg 91) LU1, Part 3, Sect 3, 3AM11.1, pg 107, (Seq pg 120) LU1, Part 3, Sect 3, 3AM11.2, pg 107, (Seq pg 120) LU1, Part 3, Sect 4, 4DS1.1, pg 143, (Seq pg 156) LU1, Part 3, Sect 7, 7AM2.1, pg 168, (Seq pg 181) LU2, Part 3, AM1.2, pg 19, (Seq pg 233) LU3, Part 3, AM1.1, pg 37, (Seq pg 276)	Modify or suspend activities during extreme dry and/or wind conditions if dust is a problem, e.g. if additional dust control measures are ineffective in prevention of emission of nuisance dust.	General Superintendent	Ongoing during earthworks.	Activities modified appropriately	
<b>Crushing and screening plant</b>							

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18.	Dust from crushing and screening plant	LU1, Part 3, Sect 3, 3AM12.1, pg 108, (Seq pg 121)	Dust produced by the operation of all crushing and screening plant will be controlled by the use of one or more of the following methods to the extent necessary to prevent environmental nuisance being caused: (a) the installation of fixed water sprays at all fixed crushers and at all points where crushed material changes direction due to belt transfer; (b) the installation of dust extraction equipment at all fixed crushers and at all points where crushed material changes direction due to belt transfer, and the incorporation of such equipment with all vibrating screens; (c) the enclosure of the crushing and screening plant and the treatment of atmospheric emissions by dust extraction equipment; and/or (d) any other method that has been approved in writing by the Director of Environmental Management.	General Superintendent	Ongoing during earthworks.	Inspection records	
<b>Haul Roads</b>							
19.	Construct crushed rock haul roads	Project Requirement Vic EPA Pub 480.	Construct long term haul roads of crushed rock or other suitable material in locations adjacent to residential and commercial areas.	General Superintendent	Ongoing during earthworks.	Gravel haul roads in sensitive areas	
20.	Water haul roads	Project Requirement	Water haul roads as required to suppress dust.	General Superintendent	Ongoing during earthworks.	Moistened haul roads	
21.	Maintain haul roads.	Project Requirement	Regularly maintain haul roads as required, using graders.	General Superintendent	Ongoing during earthworks.	Haul roads maintained	
22.	Limit speed on haul roads	Project Requirement	Limit speeds on haul roads if necessary to reduce dust generation.	General Superintendent	Ongoing during earthworks.	Speed limits employed	

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<b>On road transport of fill, muck or quarry products</b>							
23.	Cover loads	Project Requirement Vic EPA Pub 480	Cover loads as necessary to contain dust. Dampen loads if necessary to prevent escape of dust from trucks.	Truck operator	As required.	No escape of dust from trucks.	
<b>Screening plants, batch plants, pug mills, etc</b>							
24.	Controls to be developed	LU1, Part 3, Sect 3, 3AM12.1, pg 108, (Seq pg 121) Vic EPA Pub 375.2	Dust produced by the operation of all crushing and screening plant will be controlled by the use of one or more of: (a) the installation of fixed water sprays at all fixed crushers and at all points where crushed material changes direction due to belt transfer; (b) the installation of dust extraction equipment at all fixed crushers and at all points where crushed material changes direction due to belt transfer, and the incorporation of such equipment with all vibrating screens; (c) the enclosure of the crushing and screening plant and the treatment of atmospheric emissions by dust extraction equipment; and/or (d) any other method that has been approved in writing by the Director.  Controls for batch plants and pug mills will be developed if and as necessary.	Environmental Manager	As required.	Controls in place	
<b>Plant exhaust emissions</b>							
25.	Equipment	Project Requirement	Vehicles, machinery and equipment will be well maintained to minimise greenhouse gas emissions	General Superintendent	Ongoing	Equipment inspections	

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26.	Visible smoke less than 15 seconds	Project Requirement	Visible smoke from construction plant shall not persist for longer than 15 seconds (for off road plant) and 10 seconds (for plant registered for use on public roads). Plant that is seen to exceed this requirement shall be removed from use until the issue is rectified.	General Superintendent	Ongoing	Minimal visible smoke from plant	
27.	Include requirements in procurement documentation	Project Requirement	Personnel involved in the procurement of plant, including hired in plant, shall ensure this requirement is included in procurement documentation.	Procurement Personnel	Before subcontractor engagement / hire of plant.	Environmental requirements included in procurement documents	
<b>Excavation of Contaminated Soil</b>							
28.	Odour Control Measures Detailed in SEPs	Project Requirement	Where it is anticipated that contaminated soil to be excavated will emit offensive odours, preventive measures shall be taken to reduce the impact on nearby residential and commercial areas. Measures will be included in site specific Site Environmental Plans. They may include the use of neutralising sprays, covering exposed areas of offensive material when excavation is interrupted, avoiding excavation when the wind is blowing toward sensitive areas, etc.	Environmental Manager	Before excavating contaminated soils.	Planning in place	
<b>INCIDENTS</b>							

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29.	Potential environmental harm	CEMP incident response procedures	<p>Class 1: <i>An actual adverse effect on the health or safety of human beings that is of a high impact or on a wide scale; an actual adverse effect on the environment that is of a high impact or on a wide scale; an actual loss or property damage of an amount, or amounts in aggregate, exceeding ten times the threshold amount (\$5,000); an environmental nuisance of a high impact or on a wide scale; an actual adverse effect on the health or safety of human beings that is not negligible; an actual adverse effect on the environment that is not negligible</i> - cease relevant activities across all sites until the problem is fully understood and rectified; follow incident response procedures</p> <p>Class 2: <i>The emission of a pollutant that unreasonably interferes with, or is likely to unreasonably interfere with, a person's enjoyment of the environment; any emission specified in an environment protection policy to be an environmental nuisance; an actual loss or property damage of an amount, or amounts in aggregate, exceeding the threshold amount (\$5,000)</i> - cease relevant activities at the site of occurrence until the problem is rectified; follow incident response procedures</p>	Environmental Manager	Ongoing	Incident response records	



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30.	Potential permit breach	CEMP incident response procedures	<p>Class A: <i>A permit condition has been breached and either the environmental consequences are significant or the breach is due to a wilful or negligent failure to attempt to satisfy the condition</i> – cease relevant activities across all sites until the problem is fully understood and rectified; follow incident response procedures</p> <p>Class B: <i>A permit condition has been technically breached but the intent of the condition has been or will be achieved and environmental consequences of the breach are not significant</i> – cease relevant activities at the site of occurrence until the problem rectified; follow incident response procedures</p> <p>Class C: <i>Compliance with the permit has been raised as an issue but the intent and requirements established by the permit condition have been met</i> – examine the significance and potential for corrective action; follow incident response procedures</p>	Environmental Manager	Ongoing	Incident response records	

**EVALUATING PERFORMANCE**

31.	Monitoring	LU1, Part 3, Sect 2, 2MN3.3, pg 63 of 201 (Seq. 71) LU2, Part 3, Sect 2, GN11.4, pg 16 of 25 (Seq. 230) LU3, Part 3, 3.3, pg 19 of 50 (Seq. 258) LU4, Part 3, 3.3, pg 20 of 52 (Seq. 309) LU1, Part 3, Sect. 3, 3AM11.2, pg 107 of 201 (Seq. 120) LU1, Part 3, Sect. 3, 3AM13.1, pg 108 of 201 (Seq. 121)	Conduct monitoring of dust as described in Dust Management Plan (GNS-PLN-1000-1400-0001) and Construction Monitoring Plan (BBA-PLN-1000-1400-001H), including real time particle monitoring, web cam visual monitoring and regular visual inspection on site. If fugitive nuisance dust emissions are occurring, arrange for additional targeted dust mitigation measures until nuisance dust emissions cease.	Site Environmental Officer	Ongoing	Monitoring Records	
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32.	Inspections	CEMP 16	Inspect the condition of protection and control measures and arrange maintenance, as required.	Site Environmental Officer	Daily	Weekly Checklist	
33.	Reporting	CEMP 17	Report on the implementation of this EP in the environmental section of the monthly Project Report.	Environmental Manager	Ongoing	Monthly report	
34.	Assess monitoring results	CEMP 19	Evaluate and assess monitoring results against specified targets	Environmental Manager	Ongoing	Reports	
35.	Corrective action	CEMP 19	Take corrective action, where required	Project Manager	As required	Action taken	

**Revision Status**

Revision	Date	Revision Description	Prepared	Reviewed	Approved
A0	27 April 2007	Draft for Consultation	IW		
A1	9 May 2007	Draft for DTAE review	IW		
B0	22 October 2007	Revised for submission to DTAE following auditor's comments	IW	JD	JC
B3	21 January 2008	Revised following DTAE comments	JRD	JD	CF