

**ROOTY HILL REGIONAL DISTRIBUTION CENTRE  
MONTHLY ENVIRONMENTAL MONITORING REPORT**

<b>Aspect</b>	Air Quality, Construction Noise and Meteorology
<b>Date</b>	August 2013

**SUMMARY**

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<b>Monitoring period</b>	1 August to 31 August 2013
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<b>Parameters monitored in period</b>	PM <sub>10</sub> / TSP Depositional Dust Construction Noise Local Meteorology
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<b>Exceedances of assessment criteria</b>	None
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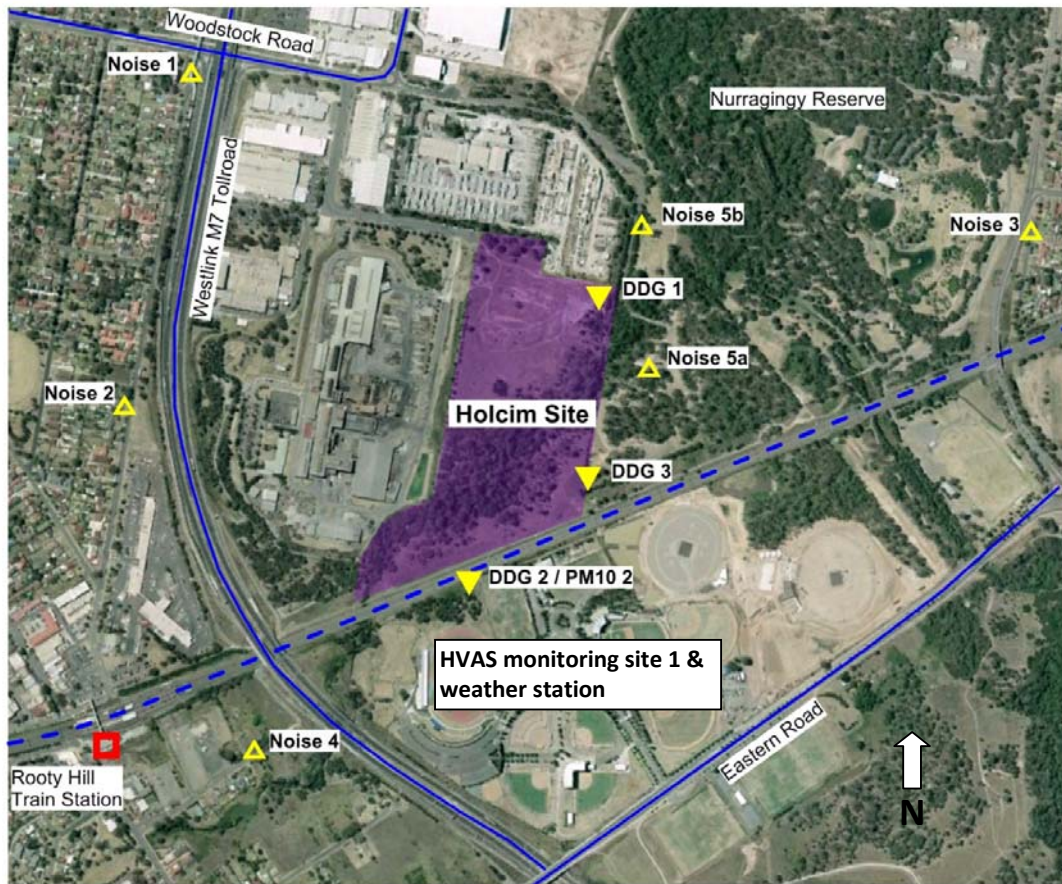
<b>Action required</b>	None
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**1. Monitoring Locations**

The monitoring locations at the Rooty Hill Regional Distribution Centre (RDC) for air quality, construction noise and meteorology are shown in **Figure 1** and consist of:

- Dust monitoring (PM<sub>10</sub>): Blacktown International Sportspark
- Dust monitoring (Depositional) Locations 1 to 3
- Noise monitoring: Locations 1 to 5
- Local Meteorology: Blacktown International Sportspark



■ Figure 1 Monitoring locations

## 2. Monitoring Methodology

### *Air Quality*

Air quality (dust) monitoring was undertaken using an Ecotech High Volume Air Sampler (HVAS) 3000 with a Particulate Matter - 10µm (PM<sub>10</sub>) sampling head. The HVAS was operated on one-day-in-six in accordance with *AS/NZS 3580.9.6:2003 Methods for sampling and analysis of ambient air, Method 9.6: Determination of suspended particulate matter (PM10) – High volume sampler with size selective inlet - Gravimetric method.*

Calibration of the unit is checked on a monthly basis, in accordance with operating instructions for the unit and *AS/NZS 3580.9.6:2003.*

Depositional dust was monitored in accordance with *AS/NZS 3580.10.1:2003 Methods for sampling and analysis of ambient air Method 10.1: Determination of particulate matter – Deposited matter – Gravimetric method.*

### Construction Noise

Construction noise was monitored for 15 minute attended periods in accordance with the requirements set out in the EPA (2000) Industrial Noise Policy and the DECC (2009) Interim Construction Noise Guidelines. Monitoring was carried out using a Brüel and Kjær Type 1 2260 Sound Level Meter by appropriately qualified personnel. Calibration of the unit was checked before and after each monitoring period, and the drift was below 0.5dB.

### Local Meteorology

Meteorological conditions were monitored using a Davis Vantage Pro2 Plus monitoring unit. This unit was positioned in accordance with *AS2923-1987 Ambient air – Guide for measurement of horizontal wind for air quality applications*.

The integrity of the meteorological monitoring station is checked every six days, and calibration of the unit is confirmed every 4 weeks.

## 3. Guidelines

### Air Quality

Air quality (dust) criteria within the Minister's Conditions of Approval (MCoA), specifically Statement of Commitment (SoC) 4.1 and the Construction Dust Management Plan (CDMP) mirror those in the NSW EPA document *Approved methods for the modelling and assessment of air pollutants in New South Wales* (DEC 2005). The air quality assessment criteria are outlined below, which apply cumulatively (that is, due to all sources of emissions and not just the contribution from the project).

Pollutant	Averaging period	Concentration
PM <sub>10</sub>	24 hours	50ug/m <sup>3</sup>
	Annual	30ug/m <sup>3</sup>
TSP	Annual	90ug/m <sup>3</sup>
Deposited dust	Annual	4 g/m <sup>2</sup> /month*

\* *Depositional dust criteria contained in the NSW EPA methods specify a maximum contribution of 2g/m<sup>2</sup>/month, up to a maximum total depositional dust level of 4g/m<sup>2</sup>/month. This criteria assumes a typical existing load of 2g/m<sup>2</sup>/month, prior to the start of construction activities.*

TSP will not be directly monitored, and instead will be calculated by application of a conversion factor (PM<sub>10</sub> x 2.5 = TSP), in accordance with the site Operational Monitoring Plan.

*Construction Noise*

Noise criteria are contained within Table 1 of the MCoA 2.3, and are as follows:

*“The Proponent shall design, construct, operate and maintain the project to ensure that the noise contributions from the project to the background acoustic environment do not exceed the maximum allowable noise contributions specified in Table 1, at those locations and during those periods indicated”*

Location	Morning Shoulder (6am to 7am Mon to Sat and 6am to 8am Sun and Pub Hol)	Day (7am to 6pm Mon to Sat and 8am to 6pm Sun and Pub Hol)	Evening (6pm to 10pm all days)	Night (10pm to 7am Mon to Sat and 10pm to 8am Sun)	
	L <sub>Aeq(15min)</sub> dB(A)	L <sub>Aeq(15min)</sub> dB(A)	L <sub>Aeq(15min)</sub> dB(A)	L <sub>Aeq(15min)</sub> dB(A)	L <sub>A1(1min)</sub> dB(A)
Station St residences	39	44	44	39	53
Crawford Rd residences	40	40	39	39	53
Mavis St residences	35	35	35	35	53
Nurragingy reserve	When the reserve is in use L <sub>Aeq</sub> 50dB(A)				
Colebee Centre	When the centre is in use – L <sub>Aeq</sub> 50dB(A)				
Blacktown International Sportspark (Formally Blacktown Olympic Park )(active recreation areas)	When active recreation areas of the Park are in use – L <sub>Aeq</sub> 55dB(A)				

In addition a noise impact assessment undertaken for the Construction Noise Management Plan (CNMP) (developed to satisfy MCoA 5.3(b)) assesses the impacts associated with different construction activities resulting from the Project. The assessment concludes the potential for disturbance at the nearest noise sensitive receivers is low. This assessment is based on adopted Noise Management Levels (NML), these being derived from measured background noise levels and the methodology presented in the DECC 2009 Interim Construction Noise Guidelines (ICNG), NSW Office of Environment and Heritage. The Project NML are below:

	Receiver	Receiver Type	Approximate Distance and Orientation from RDC boundary	NML L <sub>Aeq,15min</sub> / dB(A)
1	132 Station Street	Residential	650m west	58
2	54 Station Street	Residential	650m west	58
3	63 Coghlan Street	Residential	850m east	58
4	16 Mavis Street	Residential	650m west	60
5a	Lomandra Shelter Shed (Nurragingy Reserve)	Recreational	<100m east	63
5b	Boronia Shelter Shed (Nurragingy Reserve)	Recreational	<100m east	63

### Local Meteorology

SoC 3.3, 10.4 and 15.3 requires Holcim monitor local meteorological conditions at the site. To comply with the SoC the following parameters must be monitored:

- Daily air temperature
- Solar radiation
- Daylight hours
- Daily rainfall
- Daily evaporation
- Continuous wind speed and direction

## 4. Results and Discussion

### Air Quality

#### PM<sub>10</sub>/TSP

Date	PM <sub>10</sub> (ug/m <sup>3</sup> )		TSP	
	Measured result	Criteria	Calculated result	Criteria
2/08/2013	49.6	50	124.0	NA
8/08/2013	10.5	50	26.3	NA
14/08/2013	23.8	50	59.5	NA
20/08/2013	26.5	50	66.3	NA
26/08/2013	30.6	50	76.5	NA
Annual average (to date)	<b>24.9</b>	30	62.3	90

No exceedances of PM<sub>10</sub> or TSP dust criteria were recorded during the month of August 2013.

#### Depositional Dust

Location	Total Insoluble Matter (g/m <sup>2</sup> /month)			Goal (annual average)
	1	2	3	
31/07/2013 – 11/09/2013	0.9*	1.0*	1.9*	N/A
Annual average	1.5	1.5	1.9	4 g /m <sup>2</sup> /month

\* Note: DDG results not obtained in accordance with AS3580.10.1:2003. Values calculated to provide indicative results only (refer below).

No exceedances of depositional dust criteria were recorded during the month of August 2013.

Due to operator error, August depositional dust analysis covers a 6 week period, rather than the 4 weeks required under AS/NZS 3580.10.1:2003. The results of this analysis have been used to calculate an equivalent monthly result.

*Construction Noise*

At the time of noise monitoring, small scale earthworks were being carried out in the south western corner of the site. No other noisy works were underway.

The results of attended construction noise monitoring are presented below:

Location	Start	Construction contribution L <sub>Aeq</sub>	L <sub>Aeq</sub>	L <sub>A10</sub>	L <sub>A90</sub>	Project criteria L <sub>Aeq(15min)</sub> dB(A)	ML L <sub>Aeq,1</sub> 5min / dB(A)	Notes
1 (132 Station St)	13:00	Inaudible	57	60	55	44	58	Holcim inaudible, M7 (constant 50-60), Woodstock avenue traffic (freq 55-60)
2 (54 Station St)	13:20	Inaudible	57	59	53	44	58	Holcim inaudible, M7 (constant 50-60), local traffic (60-65)
3 (63 Coghlan St)	13:45	Inaudible	56	61	54	40	58	Holcim inaudible, Knox Rd traffic (constant 55-70)
4 (16 Mavis St)	14:10	Inaudible	58	61	52	35	60	Holcim inaudible, M7 (constant 45-55)
5a (Lomandra Shelter Shed (Nurragingy Reserve))	14:30	Inaudible	55	57	47	50	63	Holcim inaudible, infrequent local traffic (40-50), birds (50-55)
5b (Boronia Shelter Shed (Nurragingy Reserve))	14:45	Inaudible	53	56	46	50	63	Holcim inaudible, local traffic (55-65), birds (45-60)

There were no exceedances of the Project noise criteria or the respective NML recorded during the month of August 2013.

*Local Meteorology*

A wind rose showing the proportion of direction and strength of winds throughout the reporting period is below. A complete data set, including, humidity, temperature and rainfall is provided in software form.

The results of the wind rose show that areas to the south east of the site were the most likely to be impacted by construction generated dust. This area is southern areas of the Nurragingy reserve and the railway line.

### Windrose for August 2013

