

NSBT Project Construction EMP December EMP Report

This document reports on performance against the construction environmental management plan ("CEMP") for the NSBT project in December 2009. This report also considers complaints received and how those complaints have been addressed. LBB manages the receipt and tracking of complaints/issues using a formal computer based tracking system. A 24-hour toll-free contact telephone number operates to respond to complaints, concerns or enquiries from the general public. A verbal response is provided within two hours unless the person requests otherwise. Some complaints are received via the community relations email address, in which case, if no telephone or mailing address details are provided, responses are provided electronically.

This report comprises four sections:

- 1.0 Noise Monitoring;
- 2.0 Air Quality Monitoring;
- 3.0 Complaints.

1. NOISE MONITORING

The target for daytime noise level measured externally to a building is the greater of the preconstruction (2006) traffic noise in the area or 60 dB(A) after applying a 5 dB(A) correction to the 55 dB(A) goal which is based on measuring internal to a building.

LBB has established a continuous noise monitoring station near each of the four NSBT main work sites. These stations are located external to buildings at the addresses in the table below which also shows the average noise levels during normal surface hours (6:30am to 6:30pm Mondays to Saturdays) recorded in December at each location.

Worksite	Location of Monitoring	Average Levels in December 2009 (L_{A10(15min)} dBA)
Shafston Avenue	40 Connor Street	58
O'Connell Terrace	Mews Apartments	59
Pacific Motorway	71 Abingdon Street	60
Gibbon Street	19 Gibbon Street	59

Noise levels measured at all sites were less than the target.

The main strategies implemented (or continued) to mitigate noise are detailed below:

- Gibbon Street tunnel enclosure building was reconfigured to allow extraction of both TBM's to be completed with completion of shaft backfill ongoing within the shed;
- installation of final noise walls along Pacific Motorway and Lutwyche Road completed.

2. AIR QUALITY MONITORING

The primary measure of air quality is the quantity of dust deposited locally in a given area over a given period. Dust deposition monitoring is carried out in accordance with AS 3580.10.1 (1991) at 9 permanent measuring stations set up across the project at the locations designated on the maps enclosed behind this report to provide representative samples. Gauges D9, D10 and D15 have been decommissioned as work at these sites has been completed with landscaping established for over six months resulting in no further construction air quality influence.

This form of measuring captures a sample over a nominal 30 day period and the sample is then laboratory tested which provides a measurement in the unit of grams per square metre per month commonly abbreviated to g/m²/mth. Note that the nominal 30 day dust deposition monitoring period is closed mid month to allow for laboratory analysis and reporting to be completed. The goal for residential locations is 4 g/m²/mth and the results at each station for the actual period between 18 November and 18 December are shown below.

D2	ICB	3.9
D3	Tufton St	Damaged
D4	Quinton St	4.0
D5	Hawthorne St	1.2
D6	Armstrong Holden	2.3
D7	Ross St	1.4
D11	Park -Dibley	2.5
D13	Mews	2.0
D14	Jurgen St	1.7

All dust deposition results complied with the 4 g/m²/mth goal.

A secondary management tool applied to air quality is to measure the composition of the air adjacent to active worksites which provides an indicative trend over the life of the project going from the pre-existing condition to an active worksite and then reducing over time as the job completes and conditions become permanently stabilised. This measure of the particulates in the air is more widely used as an indicator of air quality in very large regions over quite a long period of time however it does have some value as a supplement to the primary dust deposition measure as an indicator of the local trends in air composition.

Measurement of the regional composition of air is done in accordance with AS 2922 of the total suspended particulate (referred to as TSP monitoring) and particulate matter less than 10µm (referred to as PM10 monitoring). Because these measurements are targeted at long term overall air quality in a region generally over a period of several years they require a reasonable history of readings to determine compliance with the annual average goals of 90 µg/m³ for TSP monitoring and 50 µg/m³ for PM10 monitoring. In addition the CEMP requires that short term measurements of PM10 taken over a minimum 24hour period be less than 150 µg/m³.

Measurements of air composition were carried out in December in the vicinity of the three (3) locations indicated on the maps enclosed at the back of this report and the

results are shown in the table below. All of the 24 hour measures of PM10 were less than 150 µg/m³.

The air quality goals for PM10 and TSP are based on an annual average. Rolling averages have been determined as below (as at 31 December 2009) for the Shafston Avenue and Bowen Hills work sites for each of PM10 and TSP:

Construction Zone	PM10 (µg/m³)	TSP (µg/m³)
Bowen Hills	29	45
Shafston Avenue	40	62

The rolling averages to 31 December 2009 for each construction zone are within the air quality goals for PM₁₀ and TSP. It is important to also note in relation to the foregoing measurements/rolling averages that:

- air monitoring stations are generally located within or immediately adjacent to the work sites and the results therefore represent the highest levels of local particulate generation caused by the project and;
- particulate levels experienced in surrounding areas will be less than those recorded at the monitoring stations due to the decrease in particulate concentrations as the distance from the work sites increases and;
- more permanent form of stabilisation has occurred progressively during 2009 by increasing paved areas and completion of final landscaping all of which results in reduced dust generation.

Date	Mews		Queensland Newspapers		Connor Street	
	PM10 ($\mu\text{g}/\text{m}^3$)	TSP ($\mu\text{g}/\text{m}^3$)	PM10 ($\mu\text{g}/\text{m}^3$)	TSP ($\mu\text{g}/\text{m}^3$)	PM10 ($\mu\text{g}/\text{m}^3$)	TSP ($\mu\text{g}/\text{m}^3$)
1/12/2009	86.23	156.16	61.47	95.34		
2/12/2009	33.17	59.91	20.20	29.08		
3/12/2009	42.37	74	14.74	21.86		
4/12/2009	32.45	57.63	9.12	13.02		
5/12/2009	25.29	41.8	8.62	11.83		
6/12/2009	24.11	34.4	11.27	14.35		
7/12/2009	41.05	70.09	14.15	19.05		
8/12/2009	47.00	83.08	14.38	19.11		
9/12/2009	53.56	93.99	18.53	25.04		
10/12/2009	39.52	69.49	14.43	19.69		
11/12/2009	37.37	65.48	14.39	19.64		
12/12/2009	51.57	82.94	22.13	28.92		
13/12/2009	22.81	35.36	10.05	13.20		
14/12/2009	30.34	56.09	9.93	13.98		
15/12/2009	41.06	73.64	14.27	19.13		
16/12/2009	27.89	50.69	11.39	16.20		
17/12/2009	36.12	64.3	13.51	18.77		
18/12/2009	43.49	76.24	15.63	21.20		
19/12/2009	28.15	44.32	12.99	17.16		
20/12/2009	15.21	23.61	7.41	9.58		
21/12/2009	20.13	34.62	8.31	11.39		
22/12/2009	26.50	50.71	10.63	15.88	23.25	37.15
23/12/2009	18.95	32.15	8.72	12.30	18.74	29.07
24/12/2009	12.80	19.1	6.77	9.16	13.63	19.34
25/12/2009	17.18	23.73	10.47	13.34	19.65	25.33
26/12/2009	24.56	31.99	15.17	18.51	30.02	37.32
27/12/2009	33.06	42.8	20.54	25.56	39.60	49.18
28/12/2009	20.68	28.52	12.17	15.06	22.20	29.58
29/12/2009	20.92	30.11	11.07	14.39	28.56	41.98
30/12/2009	25.39	37.63	13.59	18.92	22.82	31.57
31/12/2009	18.71	27.28	11.58	15.86	16.18	21.51

Key mitigation measures implemented (or continued) to reduce dust generation are detailed below:

- reduce exposed surfaces by permanent works and completion of final landscaping;
- water sprays used to minimise dust;
- continued use of trailer mounted water tanks and water carts;
- covering of trucks hauling on public roads;
- property treatments to frontline properties with high exposure to the worksite where physical mitigation measures may not be totally effective are considered on their merits on a case by case basis.

3. COMPLAINTS

In December a total of nine complaint events were received. Five complaints were received via the 1800 number, three via Council and one via email. The following table shows the number and nature of the complaints/issues (more than one issue can be raised as part of a complaint event) at each worksite.

Key mitigation measures implemented to respond to noise or dust issues are described in Sections 1.0 and 3.0 of this report.

Nature of Complaint	Pacific M'way/ Ipswich Road	Gibbon Street	Shafston Avenue/ Kangaroo Point	O'Connell Terrace/ Lutwyche Road	Other Sneyd Street (Abbotsford Rd / ICB)	Total
Dust						
Noise	1		6		1	8
Traffic						
Vibration						
Property (access, security, damage)	1					1
Other						
Total	2		6		1	9

(more than one issue can be raised as part of a complaint event)