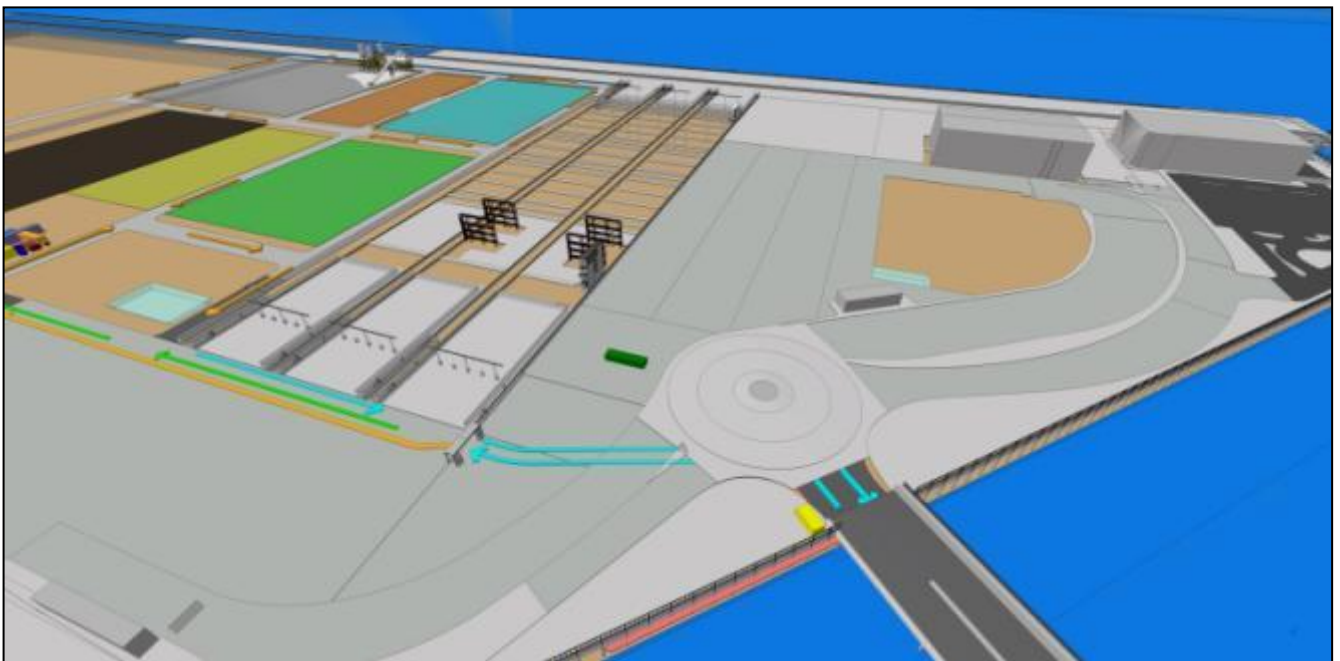


# Sydney Port Botany Terminal 3

## Monthly Environmental Monitoring Report

### April 2013





Client:	SICTL
Client's Representative:	Mott McDonald
LORA Contract No.:	G52

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**Revision History**

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## SPBT3 Monthly Environmental Report – April 13

### 1.0 Introduction

This report provides results for environmental monitoring activities associated with the Terminal 3 expansion at Port Botany for the month of April 2013.

Monitoring has been undertaken for dust, noise, water quality and Shore bird observations.

No environmental complaints have been received this month in regards to the Terminal 3 expansion works.

#### 1.1 Construction Activities

Construction activities undertaken for the month of April 2013 included the following:

- Earthworks and ground improvements
- Drainage activities
- Site utilities
- Precast concrete fabrication for utilities and services work
- Electrical substation construction
- Continuous Flight Augur piling for the stacking crane rail beams and noise walls
- Concrete batch plant operations
- Concrete paving

### 2.0 Dust Monitoring and Air Quality

Three dust deposition gauges are installed in the areas surrounding the Port Botany Expansion. Dust deposition results for April 2013 have yet to be received from our laboratory. March 2013 results are reported in Appendix 1. A real-time dust monitor has been installed at the Botany Golf Club for reporting of PM<sub>10</sub> particulate matter. No exceedances of project or EPA criteria have been observed during April 2013. Dust monitoring results are given in this report and are outlined in Appendix 1.

There have been no dust complaints received this month. All results are within EPA and Project criteria.

### 3.0 Noise Monitoring

Monthly construction noise monitoring was undertaken during April 2013. Noise monitoring locations have been based on noise-sensitive receptors in the project Environmental Impact Statement and approved for the Port Botany Expansion construction activities.

Attended noise measurements were carried out for a period of 15 minutes at each location. During the monitoring event, observations were made on the weather as well as the surrounding noise sources and environment.

#### 3.1 Day time noise monitoring

Noise measurements were undertaken on 26<sup>th</sup> April 2013. Work activities being undertaken on the Terminal 3 project included ground improvements and earthworks, stormwater drainage installation, CFA piling operations, batch plant operation, paving and material deliveries.

The Interim Construction Noise Guideline (2009, DECCW) sets out management levels for noise at residences and how they are to be applied. This guideline has been used in conjunction with the project Environmental Impact Statement to determine noise goals for the project. Recorded LAeq levels exceeded the noise goals for noise emissions from the Port Botany expansion Project at four locations, however at each monitoring location extraneous, non-project related noises were the dominant noise sources. These noise sources included road traffic, both local and main, and aircraft noise. No Terminal 3 construction activities were audible at any monitoring locations.

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It is noted that the intent of the Interim Construction Noise Guideline is to minimise noise impact from the construction works and is only applicable to the contribution of the noise from the Port Botany construction site. At the attended monitoring events, as has been noted on other stages of the Port Botany expansion project, the measured noise levels were controlled and dominated by other extraneous noise sources as listed above.

Day-time noise monitoring results are shown in Appendix 2.

### 3.2 Night time noise monitoring

Night time noise monitoring has been undertaken for concrete batching and pavement works. Conditional approval was granted by Department of Planning and Infrastructure to undertake these works outside of the standard construction hours for the site. Attended audibility trials for certain activities outside of standard construction hours have been undertaken in previous months and night time monitoring results during April have shown that concrete batching and paving works were deemed inaudible at the closest residential locations to the Terminal 3 construction site. Activities undertaken during this monitoring event included:

- Concrete batch plant operation.
- Concrete agitator trucks driving between pour location and batch plant.
- Vibrating screed used at the pour site.
- Vibrating pokers used at the pour site.
- Rail grinding works in SC11.
- Grading and rolling works on SC2 landside.
- Excavation of the ground and loading of moxy's in SC11 / SC4.

Night-time noise monitoring results are shown in Appendix 2.

## 4.0 Soil and Water Quality Monitoring

Physical water parameters required to be monitored are pH, turbidity and visible oil and grease when dewatering activities are undertaken. Other contaminants may be tested for in areas of concern if the presence of contamination is observed.

### 4.1 Water Monitoring

Water monitoring has been undertaken during April for dewatering activities undertaken during drainage works. All dewatering results have been compliant with the discharge criteria set in the project Environmental Impact Statement. Dewatering results are summarised in Appendix 3.

## 5.0 Shorebird Monitoring

Shorebird observations from the Terminal 3 site during April 2013 are outlined in Appendix 4. With the shorebird breeding season over, sightings of shorebirds around the Terminal 3 site have reduced.

## 6.0 Environmental Inspections and Audits

Weekly environmental inspections have been undertaken during April 2013 for the Terminal 3 project site. No significant environmental issues were observed or identified. Completed inspection sheets may be available on request.

## **7.0 Appendices**

- Appendix 1 – Dust Monitoring Results**
- Appendix 2 – Noise Monitoring Results**
- Appendix 3 – Water Monitoring Results**
- Appendix 4 – Terminal 3 Shorebird Observations**

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### Appendix 1 – Dust Monitoring Results

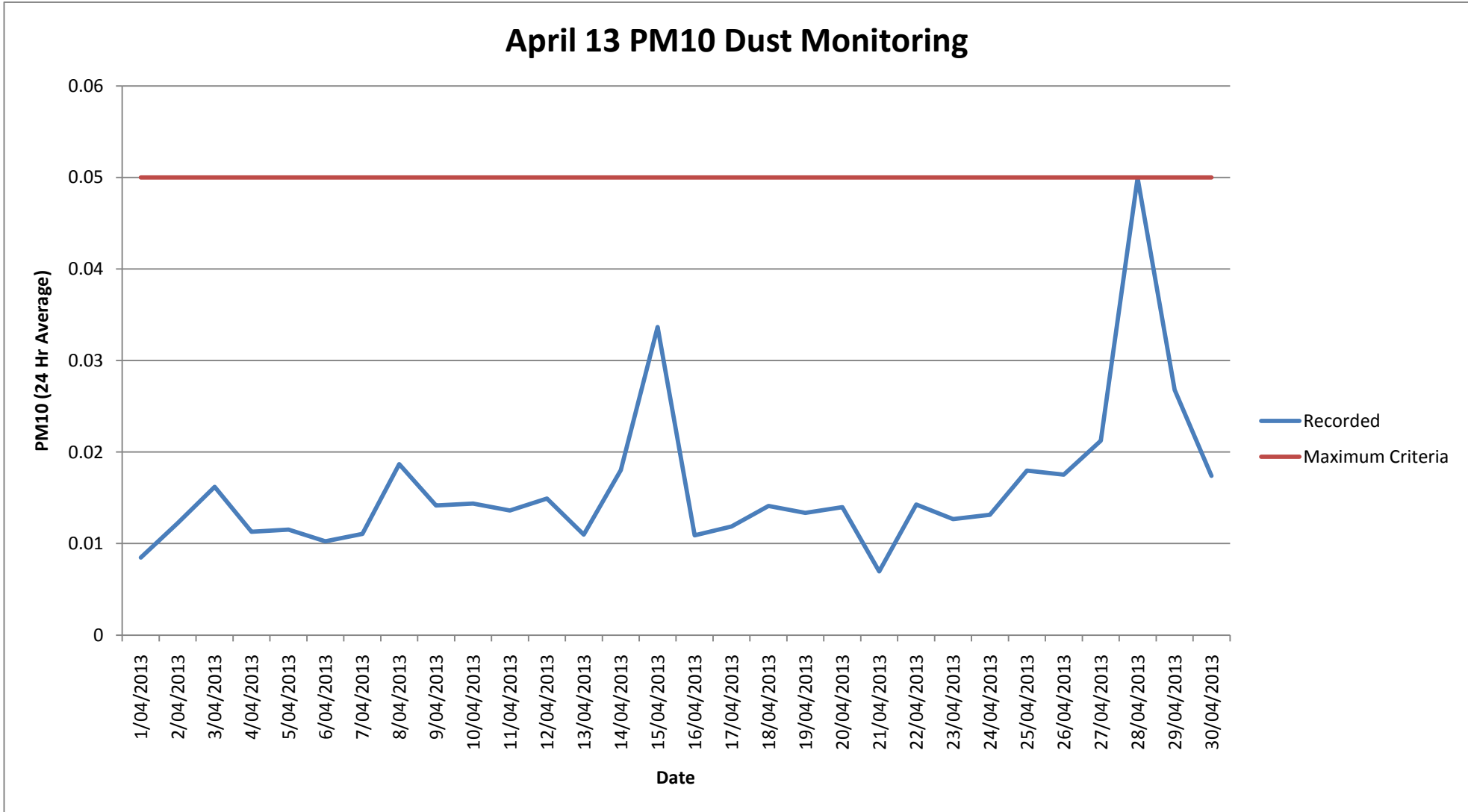
#### Dust Deposition Gauge Results - April 2013

No.	Monitoring Location	Ash	Combustible matter	Total Soluble matter	Total Insoluble matter	Total Solids	Sample ID (File Reference)	EPA Guideline (Total Insoluble matter)	Comments (i.e. any exceedances of EPA objectives)	Work Activities / Observations During Monitoring Period
1	Upper Penrhyn Estuary	0.8	0.4	2.3	1.2	3.5	EN1301439-003	4	Within EPA guideline levels	Earthworks Drainage works Deliveries Paving Concrete batch plant CFA piling Structural works
2	14 The Esplanade	0.5	0.4	0.6	0.9	1.5	EN1301439-001	4	Within EPA guideline levels	
3	74 Australia Ave	0.8	0.5	1.8	1.3	3.1	EN1301439-002	4	Within EPA guideline levels	

All Units in g/m<sup>2</sup>.month

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PM<sub>10</sub> Monitoring Results – April 2013





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Appendix 2 –Noise Monitoring Results

Day Monitoring

Noise Sensitive Area	Monitoring Location	Date	Time (24hr) & Duration (mins)	Construction Activities	Standard or Out of Hours Works (Day/Evening/Night)	Weather Conditions	In Response to Complaint?	RBL (dBA) - from EIS	Noise Goal <sup>1</sup> (RBL+ 5dBA)	Recorded Noise Level LAeq (15 min) (dBA)	Recorded Noise Level LA1 (dBA)	Recorded Noise Level LA10 (dBA)	Recorded Noise Level LA90 (dBA)	Noise Goal Difference (dBA)	Comments
Location 1 - Chelmsford Avenue	14 The Esplanade	26/04/2013	11:30	Ground improvement works Drainage works Material deliveries CFA Piling Works Batch Plant Pavement Works	Standard Day	Fine	No	49	54	51	54	52	48	-3	Noise from Foreshore Rd traffic, aircraft noise, local traffic, park noise
Location 2 - Dent Street	34 Dent St	26/04/2013	12:15	Ground improvement works Drainage works Material deliveries CFA Piling Works Batch Plant	Standard Day	Fine	No	47	52	60	69	64	54	8	Local traffic noise, aircraft noise
Location 3 - Jennings Street	42 Jennings St	26/04/2013	14:05	Ground improvement works Drainage works Material deliveries CFA Piling Works Batch Plant	Standard Day	Fine	No	40	45	57	66	60	51	12	Local traffic noise, aircraft noise
Location 4 - North of Golf Course	3 Anniversary Rd	26/04/2013	12:45	Ground improvement works Drainage works Material deliveries CFA Piling Works Batch Plant	Standard Day	Fine	No	57	62	57	64	60	50	-5	Local traffic noise, aircraft noise
Location 5 - Australia Avenue	74 Australia Ave	26/04/2013	13:30	Ground improvement works Drainage works Material deliveries CFA Piling Works Batch Plant	Standard Day	Fine	No	42	47	49	59	52	45	2	Local/distant traffic noise, aircraft noise
Location 6 - Military Road	73 Wassell St	26/04/2013	14:45	Ground improvement works Drainage works Material deliveries CFA Piling Works Batch Plant	Standard Day	Fine	No	46	51	52	58	55	48	1	Noise from Bunnerong Rd, Local traffic noise

Note 1: Noise goals are applicable to the noise contribution from the Terminal 3 Port Botany Expansion related construction activities only

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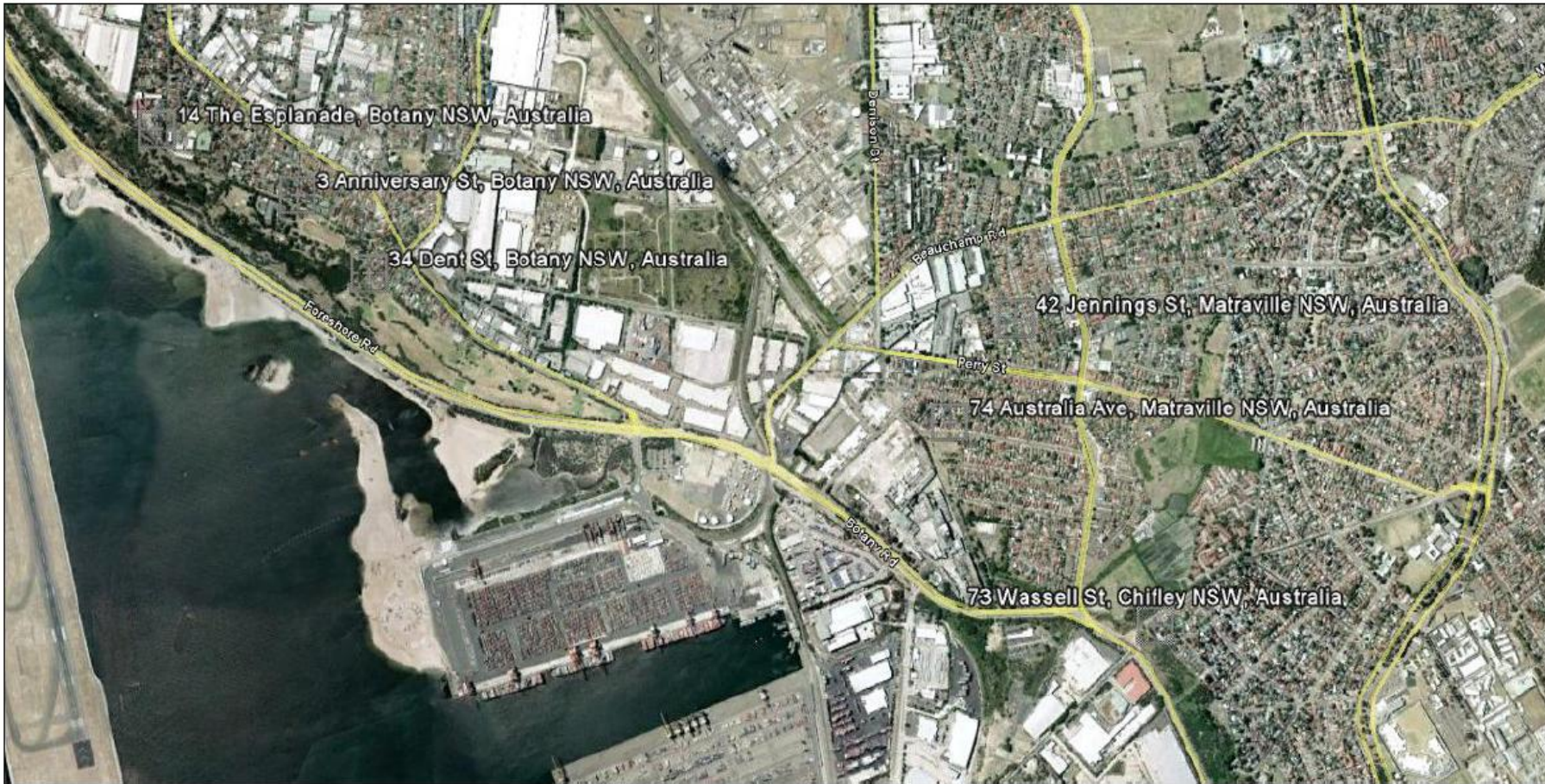
### Night Monitoring

Results of Attended Noise Measurements – Tuesday, April 2013				
Location	Measurement Time	L <sub>A90</sub> (dBA)	L <sub>Amin</sub> (dBA)	Comments
Dent St (park end – rear)	22:00- 22:15	51	48	Site noise inaudible at all times. Dominated by road traffic and insect noise.
Dent St (park end – rear)	22:30 – 22:45	50	44	Site noise inaudible at all times. Dominated by road traffic and insect noise.
Dent St (park end – rear)	22:46 – 23:01	48	43	Site noise inaudible at all times. Dominated by road traffic and insect noise.
Dent St (park end – rear)	23:02 – 23:17	48	46	Site noise inaudible at all times. Dominated by road traffic and insect noise.
Dent St (park end – rear)	23:18 – 23:33	48	46	Site noise inaudible at all times. Dominated by road traffic and insect noise.
Dent St (park end – rear)	23:34 – 23:49	49	46	Site noise inaudible at all times. Dominated by road traffic and insect noise.
Dent St (park end – rear)	23:50 – 24:05	48	44	Site noise inaudible at all times. Dominated by road traffic and insect noise.
Dent St (park end – rear)	24:06 – 24:21	47	44	Site noise inaudible at all times. Dominated by road traffic and insect noise.
Dent St (park end – rear)	24:22 – 24:37	47	44	Site noise inaudible at all times. Dominated by road traffic and insect noise.
Australia Ave	24:51 – 01:06	48	48	Site noise inaudible at all times. Dominated by road traffic and industrial noise from operational Port area.
Australia Ave	01:07 – 01:22	48	46	Site noise inaudible at all times. Dominated by road traffic and industrial noise from operational Port area.
Australia Ave	01:23 – 01:38	47	46	Site noise inaudible at all times. Dominated by road traffic and industrial noise from operational Port area.
Australia Ave	01:39 – 01:54	47	46	Site noise inaudible at all times. Dominated by road traffic and industrial noise from operational Port area.
Australia Ave	01:55 – 02:10	50	48	Site noise inaudible at all times. Dominated by road traffic and industrial noise from operational Port area.
Dent St (park end – rear)	2:27 – 2:42	44	42	Site noise inaudible at all times. Dominated by road traffic and insect noise.
Dent St (park end – rear)	2:43 – 2:58	46	44	Site noise inaudible at all times. Dominated by road traffic and insect noise.
Dent St (park end – rear)	2:59 – 3:14	49	45	Site noise inaudible at all times. Dominated by road traffic and insect noise.
Dent St (park end – rear)	3:15 – 3:30	49	45	Site noise inaudible at all times. Dominated by road traffic and insect noise.
Dent St (park end – rear)	3:31 – 3:46	50	47	Site noise inaudible at all times. Dominated by road traffic and insect noise.
Dent St (park end – rear)	3:47 – 4:02	49	45	Site noise inaudible at all times. Dominated by road traffic and insect noise.

Note: During these measurements the weather was observed as being hot with calm winds.

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Noise Monitoring Locations



Location 1	Location 2	Location 3	Location 4	Location 5	Location 6
14 The Esplanade	34 Dent St	42 Jennings St	3 Anniversary Rd	74 Australia Ave	73 Wassell St

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## Appendix 3 – April 13 Water Monitoring Results

Dewatering Discharge Monitoring							
Dewatering Location	Date	AM/PM	Meets Criteria	Discharge Location	Oil and Grease (visual)	Horiba Water Monitor	
						pH	Turbidity
SC13 - Outlet	2/04/2013	AM	Yes	Adjacent Bay	None	6.98	3.2
SC13 - Outlet	2/04/2013	PM	Yes	Adjacent Bay	None	6.99	3.1
SC13 - Outlet	3/04/2013	AM	Yes	Adjacent Bay	None	7.43	2.1
SC13 - Outlet	3/04/2013	PM	Yes	Adjacent Bay	None	7.25	2.4
SC13 - Outlet	4/04/2013	AM	Yes	Adjacent Bay	None	7.32	3.6
SC13 - Outlet	4/04/2013	PM	Yes	Adjacent Bay	None	7.87	3.2
SC13 - Outlet	5/04/2013	AM	Yes	Adjacent Bay	None	7.19	2.1
SC13 - Outlet	5/04/2013	PM	Yes	Adjacent Bay	None	7.74	1.2
SC13 - Outlet	8/04/2013	AM	Yes	Adjacent Bay	None	7.91	1.4
SC13 - Outlet	8/04/2013	PM	Yes	Adjacent Bay	None	7.32	0.8
SC13 - Outlet	9/04/2013	AM	Yes	Adjacent Bay	None	8.02	0.4
SC13 - Outlet	9/04/2013	PM	Yes	Adjacent Bay	None	8.21	1.4
SC13 - Outlet	10/04/2013	AM	Yes	Adjacent Bay	None	7.69	1.2
SC13 - Outlet	10/04/2013	PM	Yes	Adjacent Bay	None	7.38	3.3
SC13 - Outlet	11/04/2013	AM	Yes	Adjacent Bay	None	7.28	1.2
SC13 - Outlet	11/04/2013	PM	Yes	Adjacent Bay	None	7.83	2.6
SC13 - Outlet	12/04/2013	AM	Yes	Adjacent Bay	None	7.32	2.9
SC13 - Outlet	12/04/2013	PM	Yes	Adjacent Bay	None	7.18	3.6
SC13 - Outlet	15/04/2013	AM	Yes	Adjacent Bay	None	7.12	0.9
SC13 - Outlet	15/04/2013	PM	Yes	Adjacent Bay	None	7.36	2.4
SC13 - Outlet	16/04/2013	AM	Yes	Adjacent Bay	None	7.24	1.6
Bay Reading	3/04/2013	PM	N/A	N/A		7.32	3.6
Bay Reading	11/04/2013	AM	N/A	N/A		7.21	2.0
SC12 - SQID	17/04/2013	AM	Yes	Adjacent Bay	None	7.43	2.4
SC12 - SQID	17/04/2013	PM	Yes	Adjacent Bay	None	7.56	4.3
SC12 - SQID	18/04/2013	AM	Yes	Adjacent Bay	None	7.54	2.2
SC12 - SQID	18/04/2013	PM	Yes	Adjacent Bay	None	7.52	2.8
SC12 - SQID	19/04/2013	AM	Yes	Adjacent Bay	None	7.68	4.3
SC12 - SQID	19/04/2013	PM	Yes	Adjacent Bay	None	7.65	5.5
SC12 - SQID	22/04/2013	AM	Yes	Adjacent Bay	None	7.41	3.2
SC12 - SQID	22/04/2013	PM	Yes	Adjacent Bay	None	7.86	5.6
SC12 - SQID	23/04/2013	AM	Yes	Adjacent Bay	None	7.67	3.2
SC12 - SQID	23/04/2013	PM	Yes	Adjacent Bay	None	7.53	5.5
SC12 - SQID	25/04/2013	AM	Yes	Adjacent Bay	None	7.45	4.3
SC12 - SQID	25/04/2013	PM	Yes	Adjacent Bay	None	7.98	4.6
SC12 - SQID	26/04/2013	AM	Yes	Adjacent Bay	None	7.67	5.4
SC12 - SQID	26/04/2013	PM	Yes	Adjacent Bay	None	7.87	5.2
SC12 - SQID	29/04/2013	AM	Yes	Adjacent Bay	None	7.74	2.2
SC12 - SQID	29/04/2013	PM	Yes	Adjacent Bay	None	7.75	6.8
SC12 - SQID	30/04/2013	AM	Yes	Adjacent Bay	None	7.34	8.2
SC12 - SQID	30/04/2013	PM	Yes	Adjacent Bay	None	7.44	9.3
Estuary	18/04/2013	PM	N/A	N/A		7.56	2.3
Estuary	26/04/2013	PM	N/A	N/A		7.66	3.1



**Appendix 4 – Terminal 3 Shorebird Observations**

Shorebird Monitoring Database April 2013 - SPBT3 worksite				
Date	Bird Type	Location	Reported by	Action
2/04/2013	4 x Pacific Golden Plover	SC10 Revetment	J Ambler	Birds were outside active worksite. No action required.
12/04/2013	16 x Red Capped Plover	Future Phase Area 3A	J Ambler	Birds were outside active worksite. No action required.