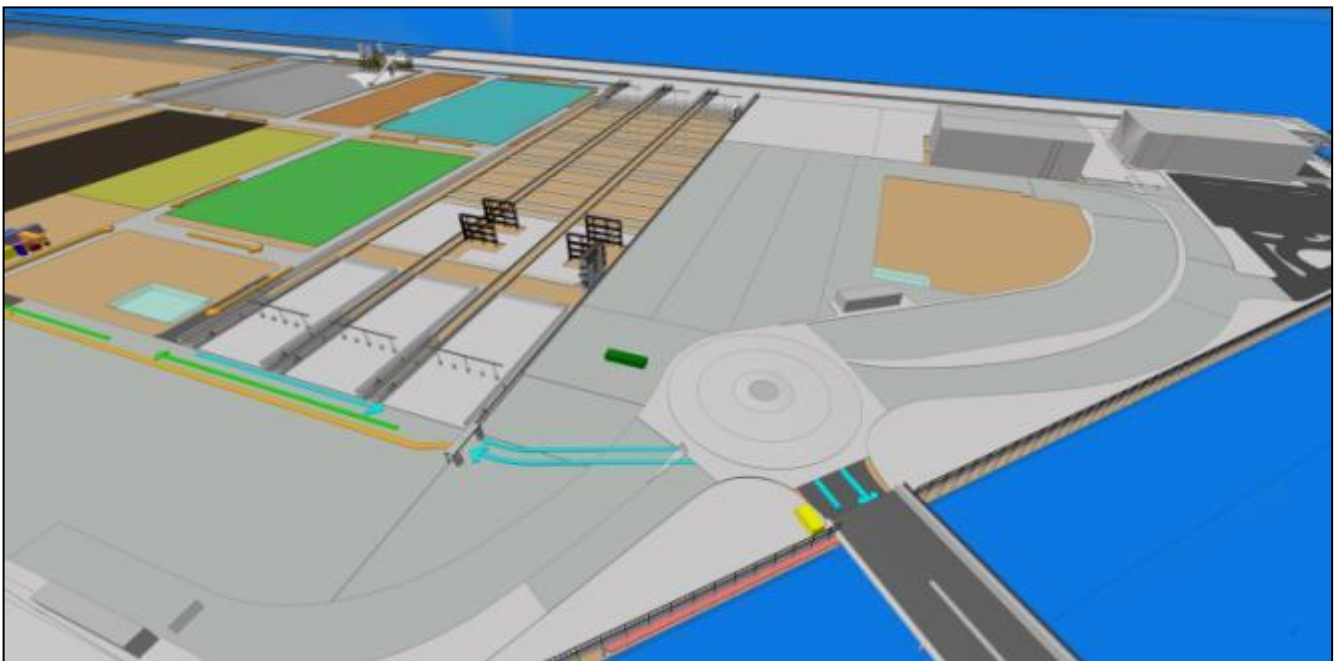


Sydney Port Botany Terminal 3

Monthly Environmental Monitoring Report

February 2013





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

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Revision History

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1.0 Introduction

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

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

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 February 2012 included the following:

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

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 February 2013 have yet to be received from our laboratory. January 2013 results are reported in Appendix 1. A real-time dust monitor has been installed at the Botany Golf Club for reporting of PM₁₀ particulate matter. No exceedances of project or EPA criteria have been observed during February 2013. Dust monitoring results are given in this report and are outlined in Appendix 1.

There has 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 February 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 22nd February 2013. Work activities being undertaken on the Terminal 3 project included ground improvements and earthworks, headwall and drainage works, concrete precast works, CFA piling operations 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 all locations except one, 3 Anniversary Road, Botany. 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.

Construction activities at the Terminal 3 project site were inaudible in all cases.

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

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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

No night time monitoring was required to be undertaken for the Terminal 3 project site.

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 February 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 February 2013 are outlined in Appendix 4.

6.0 Environmental Inspections and Audits

Weekly environmental inspections have been undertaken during February 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

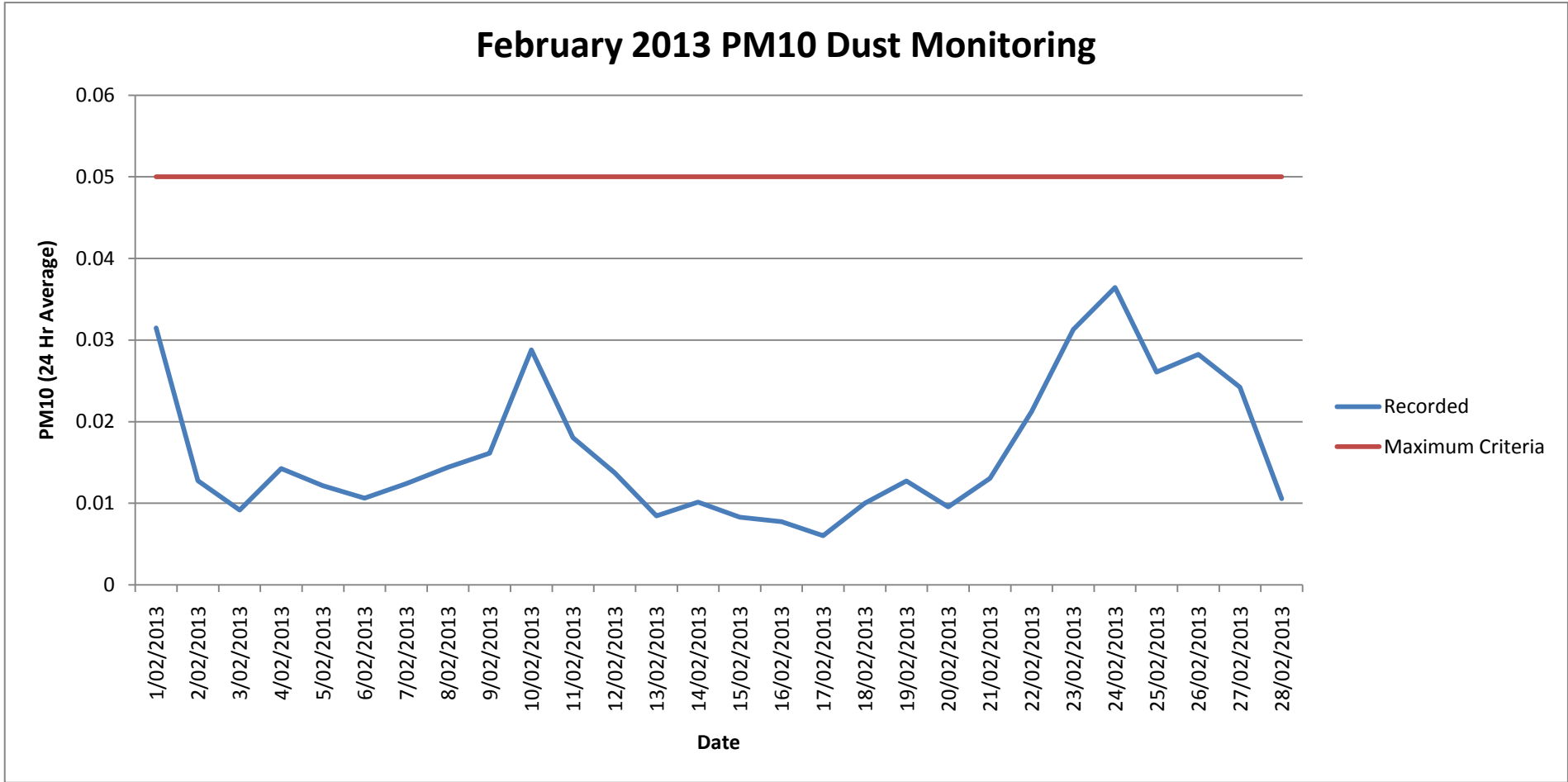
- Appendix 1 – Dust Monitoring Results**
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Appendix 1 – Dust Monitoring Results

Dust Deposition Gauge Results - February 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	1.6	0.8	<0.1	2.4	2.4	EN1300690-003	4	Within EPA guideline levels	Earthworks Drainage works Material deliveries Concrete precast fabrication CFA piling Batch plant
2	14 The Esplanade	0.8	0.4	0.1	1.2	1.3	EN1300690-001	4	Within EPA guideline levels	
3	74 Australia Ave	1.3	0.6	0.2	1.9	2.1	EN1300690-002	4	Within EPA guideline levels	

All Units in g/m².month



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Appendix 2 – Day-time Noise Monitoring Results

Noise Monitoring Results - SPBT3 February 2013															
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 ¹ (RBL+ 5dBA)	Recorded Noise Level LAeq (15 min) (dBA)	Recorded Noise Level LA1 (dBA)	Recorded Noise Level LA10 (dBA)	Recorded Noise Level L90 (dBA)	Noise Goal Difference (dBA)	Comments
Location 1 - Chelmsford Avenue	14 The Esplanade	22/01/2013	8:35	Ground improvement works Drainage works Concrete precast works Material deliveries CFA Piling Works Batch Plant	Standard Day	Fine	No	49	54	61	72	56	48	7	Noise from Foreshore Rd traffic, aircraft noise, local traffic, birds in park
Location 2 - Dent Street	34 Dent St	22/01/2013	9:25	Ground improvement works Drainage works Concrete precast works Material deliveries CFA Piling Works Batch Plant	Standard Day	Fine	No	47	52	62	68	65	60	10	Local traffic noise, aircraft noise
Location 3 - Jennings Street	42 Jenning St	22/01/2013	11:40	Ground improvement works Drainage works Concrete precast works Material deliveries CFA Piling Works Batch Plant	Standard Day	Fine	No	40	45	59	62	59	42	14	Local traffic noise, some aircraft noise
Location 4 - North of Golf Course	3 Anniversary Rd	22/01/2013	10:20	Ground improvement works Drainage works Concrete precast works Material deliveries CFA Piling Works Batch Plant	Standard Day	Fine	No	57	62	63	71	60	56	1	Local traffic noise, aircraft noise
Location 5 - Australia Avenue	74 Australia Ave	22/01/2013	10:50	Ground improvement works Drainage works Concrete precast works Material deliveries CFA Piling Works Batch Plant	Standard Day	Fine	No	42	47	52	59	52	43	5	Local/distant traffic noise, aircraft noise
Location 6 - Military Road	73 Wassell St	22/01/2013	12:45	Ground improvement works Drainage works Concrete precast works Material deliveries CFA Piling Works Batch Plant	Standard Day	Fine	No	46	51	58	67	62	48	7	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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Appendix 3 – Water Monitoring Results

Dewatering Discharge Monitoring						
Dewatering Location	Date	Meets Criteria	Discharge Location	Horiba Water Monitor		
				Oil and Grease (visual)	pH	Turbidity
SC3 - Outlet	1/2 am	Yes	Adjacent Bay	None	7.54	2.1
SC3 - Outlet	1/2 pm	Yes	Adjacent Bay	None	7.56	1.8
SC3 - Outlet	4/2 am	Yes	Adjacent Bay	None	7.19	1.6
SC3 - Outlet	4/2 pm	Yes	Adjacent Bay	None	8.03	1.0
SC3 - Outlet	5/2 am	Yes	Adjacent Bay	None	8.34	0.3
SC3 - Outlet	5/2 pm	Yes	Adjacent Bay	None	7.89	2.5
SC3 - Outlet	6/2 am	Yes	Adjacent Bay	None	7.27	2.4
SC3 - Outlet	6/2 pm	Yes	Adjacent Bay	None	7.81	1.4
SC3 - Outlet	7/2 am	Yes	Adjacent Bay	None	7.90	1.7
SC3 - Outlet	7/2 pm	Yes	Adjacent Bay	None	7.98	2.6
SC3 - Outlet	8/2 am	Yes	Adjacent Bay	None	7.57	2.4
SC3 - Outlet	8/2 pm	Yes	Adjacent Bay	None	7.32	1.0
SC3 - Outlet	11/2 am	Yes	Adjacent Bay	None	7.16	0.9
SC3 - Outlet	11/2 pm	Yes	Adjacent Bay	None	7.31	2.3
SC3 - Outlet	12/2 am	Yes	Adjacent Bay	None	8.30	4.1
SC3 - Outlet	12/2 pm	Yes	Adjacent Bay	None	8.21	1.6
SC3 - Outlet	13/2 am	Yes	Adjacent Bay	None	8.07	0.6
SC3 - Outlet	13/2 pm	Yes	Adjacent Bay	None	7.97	0.5
SC3 - Outlet	14/2 am	Yes	Adjacent Bay	None	7.56	1.7
SC3 - Outlet	14/2 pm	Yes	Adjacent Bay	None	7.86	1.3
SC3 - Outlet	15/2 am	Yes	Adjacent Bay	None	7.40	1.9
SC3 - Outlet	15/2 pm	Yes	Adjacent Bay	None	7.78	1.2
SC3 - Outlet	18/2 am	Yes	Adjacent Bay	None	7.01	2.9
SC3 - Outlet	18/2 pm	Yes	Adjacent Bay	None	7.23	2.0
SC3 - Outlet	19/2 am	Yes	Adjacent Bay	None	7.05	1.6
SC3 - Outlet	19/2 pm	Yes	Adjacent Bay	None	7.75	1.2
SC3 - Outlet	20/2am	Yes	Adjacent Bay	None	7.73	1.0
SC3 - Outlet	20/2pm	Yes	Adjacent Bay	None	7.32	1.8
SC3 - Outlet	21/2am	Yes	Adjacent Bay	None	7.36	1.6
SC3 - Outlet	21/2pm	Yes	Adjacent Bay	None	7.31	1.1
SC3 - Outlet	22/2am	Yes	Adjacent Bay	None	7.93	1.7
SC3 - Outlet	22/2 pm	Yes	Adjacent Bay	None	7.39	2.0
SC3 - Outlet	25/2 am	Yes	Adjacent Bay	None	7.65	2.5
SC3 - Outlet	25/2 pm	Yes	Adjacent Bay	None	7.83	2.9
SC3 - Outlet	26/2 am	Yes	Adjacent Bay	None	7.24	1.5
SC3 - Outlet	26/2 pm	Yes	Adjacent Bay	None	7.43	2.9
SC3 - Outlet	27/2 am	Yes	Adjacent Bay	None	7.04	2.3
SC3 - Outlet	27/2 pm	Yes	Adjacent Bay	None	7.56	1.3
SC3 - Outlet	28/2 am	Yes	Adjacent Bay	None	7.32	2.8
SC3 - Outlet	28/2 pm	Yes	Adjacent Bay	None	8.03	2.1
Bay Reading	4/2 am	N/A	N/A	None	7.43	0.4

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Bay Reading	12/2 pm	N/A	N/A	None	7.65	1.3
Bay Reading	19/2 am	N/A	N/A	None	7.12	1.6
Bay Reading	27/2 pm	N/A	N/A	None	7.87	1.2
SC10 - SQID	1/2 am	Yes	Adjacent Bay	None	7.23	1.8
SC10 - SQID	1/2 pm	Yes	Adjacent Bay	None	7.12	1.4
SC10 - SQID	4/2 am	Yes	Adjacent Bay	None	7.34	2.6
SC10 - SQID	4/2 pm	Yes	Adjacent Bay	None	7.41	2.7
SC10 - SQID	5/2 am	Yes	Adjacent Bay	None	7.29	0.2
SC10 - SQID	5/2 pm	Yes	Adjacent Bay	None	7.64	0.1
SC10 - SQID	6/2 am	Yes	Adjacent Bay	None	7.35	0
SC10 - SQID	6/2 pm	Yes	Adjacent Bay	None	7.19	0.6
SC10 - SQID	7/2 am	Yes	Adjacent Bay	None	7.93	0.3
SC10 - SQID	7/2 pm	Yes	Adjacent Bay	None	8.34	1.7
SC10 - SQID	8/2 am	Yes	Adjacent Bay	None	8.18	1.9
SC10 - SQID	8/2 pm	Yes	Adjacent Bay	None	7.54	1.4
SC10 - SQID	11/2 am	Yes	Adjacent Bay	None	7.41	1.3
SC10 - SQID	11/2 pm	Yes	Adjacent Bay	None	7.84	1.8
SC10 - SQID	12/2 am	Yes	Adjacent Bay	None	7.25	1.5
SC10 - SQID	12/2 pm	Yes	Adjacent Bay	None	7.18	1.8
SC10 - SQID	13/2 am	Yes	Adjacent Bay	None	7.43	1.1
SC10 - SQID	13/2 pm	Yes	Adjacent Bay	None	7.39	2.5
SC10 - SQID	14/2 am	Yes	Adjacent Bay	None	7.51	2.6
SC10 - SQID	14/2 pm	Yes	Adjacent Bay	None	7.48	3.1
SC10 - SQID	15/2 am	Yes	Adjacent Bay	None	7.91	2.6
SC10 - SQID	15/2 pm	Yes	Adjacent Bay	None	8.21	3.8
SC10 - SQID	18/2 am	Yes	Adjacent Bay	None	7.45	0.1
SC10 - SQID	18/2 pm	Yes	Adjacent Bay	None	7.61	1.6
SC10 - SQID	19/2 am	Yes	Adjacent Bay	None	7.40	1.9
SC10 - SQID	19/2 pm	Yes	Adjacent Bay	None	7.00	1.9
SC10 - SQID	20/2am	Yes	Adjacent Bay	None	7.80	3.7
SC10 - SQID	20/2pm	Yes	Adjacent Bay	None	7.65	3.9
SC10 - SQID	21/2am	Yes	Adjacent Bay	None	7.07	3.2
SC10 - SQID	21/2pm	Yes	Adjacent Bay	None	8.22	1.9
SC10 - SQID	22/2am	Yes	Adjacent Bay	None	7.77	1.1
SC10 - SQID	22/2 pm	Yes	Adjacent Bay	None	7.45	1.5
SC10 - SQID	25/2 am	Yes	Adjacent Bay	None	7.41	1.6
SC10 - SQID	25/2 pm	Yes	Adjacent Bay	None	7.91	0.6
SC10 - SQID	26/2 am	Yes	Adjacent Bay	None	7.87	0.8
SC10 - SQID	26/2 pm	Yes	Adjacent Bay	None	7.30	1.1
SC10 - SQID	27/2 am	Yes	Adjacent Bay	None	7.60	1.2
SC10 - SQID	27/2 pm	Yes	Adjacent Bay	None	7.51	1.7
SC10 - SQID	28/2 am	Yes	Adjacent Bay	None	7.03	2.5
SC10 - SQID	28/2 pm	Yes	Adjacent Bay	None	7.34	0.4
Estuary Reading	4/2 am	N/A	N/A	None	7.65	2.1
Estuary Reading	12/2 pm	N/A	N/A	None	7.39	1.8
Estuary Reading	19/2 am	N/A	N/A	None	7.93	1.5
Estuary Reading	27/2 pm	N/A	N/A	None	7.01	1.2
SC5 - Headwall	11/2 am	Yes	Adjacent Bay	None	7.27	1.6

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SC5 - Headwall	11/2 pm	Yes	Adjacent Bay	None	7.45	1.8
SC5 - Headwall	12/2 am	Yes	Adjacent Bay	None	7.31	2.4
SC5 - Headwall	12/2 pm	Yes	Adjacent Bay	None	7.12	2.5
SC5 - Headwall	13/2 am	Yes	Adjacent Bay	None	7.67	1.8
SC5 - Headwall	13/2 pm	Yes	Adjacent Bay	None	7.32	1
SC5 - Headwall	14/2 am	Yes	Adjacent Bay	None	7.8	1.5
SC5 - Headwall	14/2 pm	Yes	Adjacent Bay	None	7.45	1.8
SC5 - Headwall	15/2 am	Yes	Adjacent Bay	None	7.29	1.2
SC5 - Headwall	15/2 pm	Yes	Adjacent Bay	None	7.53	1.7
SC5 - Headwall	18/2 am	Yes	Adjacent Bay	None	7.1	2.7
SC5 - Headwall	18/2 pm	Yes	Adjacent Bay	None	7.34	2.4
SC5 - Headwall	19/2 am	Yes	Adjacent Bay	None	7.04	2.8
SC5 - Headwall	19/2 pm	Yes	Adjacent Bay	None	7.56	2.1
SC5 - Headwall	20/2am	Yes	Adjacent Bay	None	7.9	2.6
SC5 - Headwall	20/2pm	Yes	Adjacent Bay	None	7.89	2.1
SC5 - Headwall	21/2am	Yes	Adjacent Bay	None	7.64	1.8
SC5 - Headwall	21/2pm	Yes	Adjacent Bay	None	7.2	1.2
SC5 - Headwall	22/2am	Yes	Adjacent Bay	None	7.73	1.9
SC5 - Headwall	22/2 pm	Yes	Adjacent Bay	None	7.17	1.2
SC5 - Headwall	25/2 am	Yes	Adjacent Bay	None	7.89	3.9
SC5 - Headwall	25/2 pm	Yes	Adjacent Bay	None	7	3.1
SC5 - Headwall	26/2 am	Yes	Adjacent Bay	None	7.31	3
SC5 - Headwall	26/2 pm	Yes	Adjacent Bay	None	7.43	2.4
SC5 - Headwall	27/2 am	Yes	Adjacent Bay	None	7.37	2.3
SC5 - Headwall	27/2 pm	Yes	Adjacent Bay	None	7.02	1.9
SC5 - Headwall	28/2 am	Yes	Adjacent Bay	None	7.21	1.4
SC5 - Headwall	28/2 pm	Yes	Adjacent Bay	None	7.11	0.4
Estuary Reading	4/2 am	N/A	N/A	None	7.98	1.5
Estuary Reading	12/2 pm	N/A	N/A	None	7.34	2.9
Estuary Reading	19/2 am	N/A	N/A	None	7.2	1.6
Estuary Reading	27/2 pm	N/A	N/A	None	7.54	1.8



Appendix 4 – Terminal 3 Shorebird Observations

Shorebird Monitoring Database - SPBT3 worksite				
Date	Bird Type	Location	Reported by	Action
7/02/2013	Pacific Golden Plover	8No. At SC10 revetment	J. Ambler	Not near active works, no action required
13/02/2013	Pacific Golden Plover	10No. At SC10 revetment	J. Ambler	Not near active works, no action required
13/02/2013	Bar Tailed Godwit	1No. at SC10 revetment	J. Ambler	Not near active works, no action required
25/02/2013	Little Tern	5No. Observed flying over SC10	E. Yasseen	Not on active work site, no action required