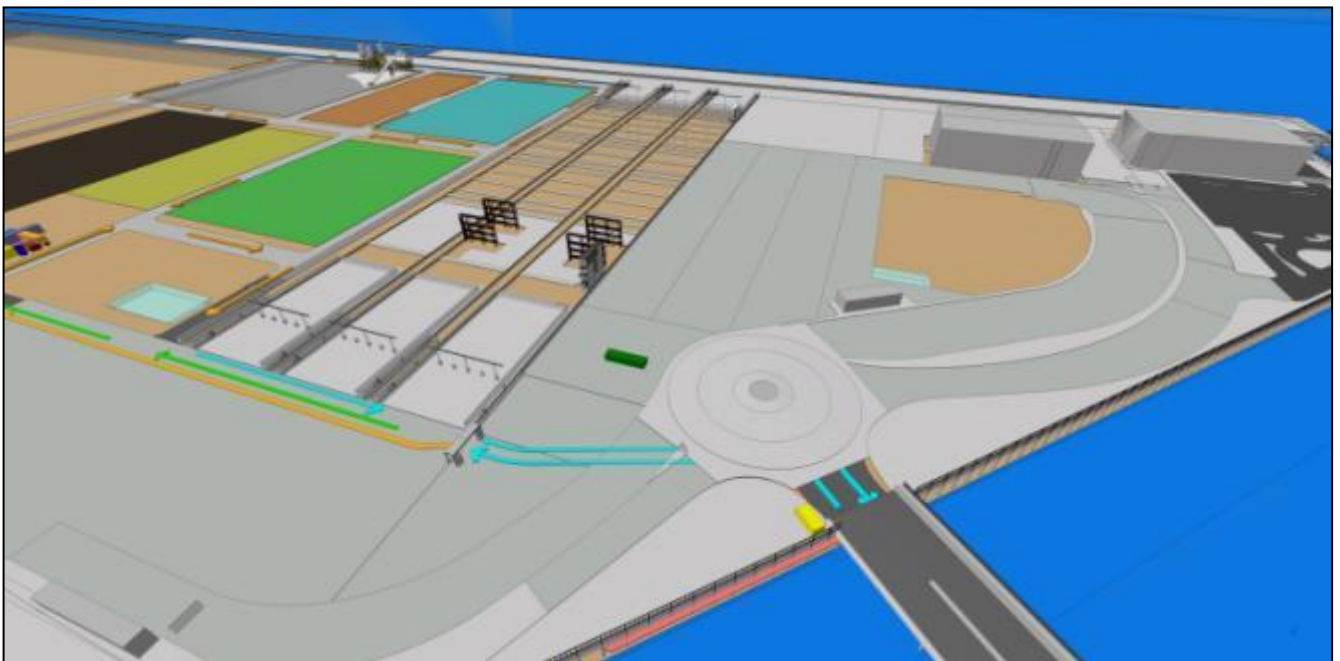


Sydney Port Botany Terminal 3

Monthly Environmental Monitoring Report

September 2013





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

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Revision History

Rev	Date	Description	Reviewed	INT/Date	Authorised
0	03/10/13	Issue	JA	03/10/13	JA

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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 September 2013.

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

No environmental complaints have been received by Laing O'Rourke this month in regards to the Terminal 3 expansion works.

1.1 Construction Activities

Laing O'Rourke construction activities undertaken for the month of August 2013 included the following:

- Earthworks and ground improvements
- Drainage activities
- Services works
- Concrete batch plant and paving operations
- Noise wall installation and painting
- Landscaping

2.0 Dust Monitoring and Air Quality

Four dust deposition gauges are installed in the areas surrounding the Port Botany Expansion. Dust deposition results for September 2013 have yet to be received from our laboratory. August 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. There have been no dust complaints received this month. Dust monitoring results are given in this report and are outlined in Appendix 1.

There have been no dust complaints received this month and all results considered representative of the Terminal 3 construction project are within EPA and Project criteria. Dust monitoring results are given in this report and are outlined in Appendix 1.

3.0 Noise Monitoring

Monthly construction noise monitoring was undertaken during September 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 12th September 2013. Work activities being undertaken on the Terminal 3 project included ground improvements and earthworks, stormwater drainage and services installation, batch plant operation, paving, noise wall installation, landscaping 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 5 of the 6 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.

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 September 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

No shorebird observations were obtained this month. This may be due to the noise wall construction impeding views of Penrhyn Estuary from the Terminal 3 site. Shorebird observations from the Terminal 3 site during September 2013 are outlined in Appendix 4.

6.0 Environmental Inspections and Audits

Weekly environmental inspections have been undertaken during September 2013 for the Terminal 3 project site. Inspections have focused on dust suppression with dry conditions through the month. 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

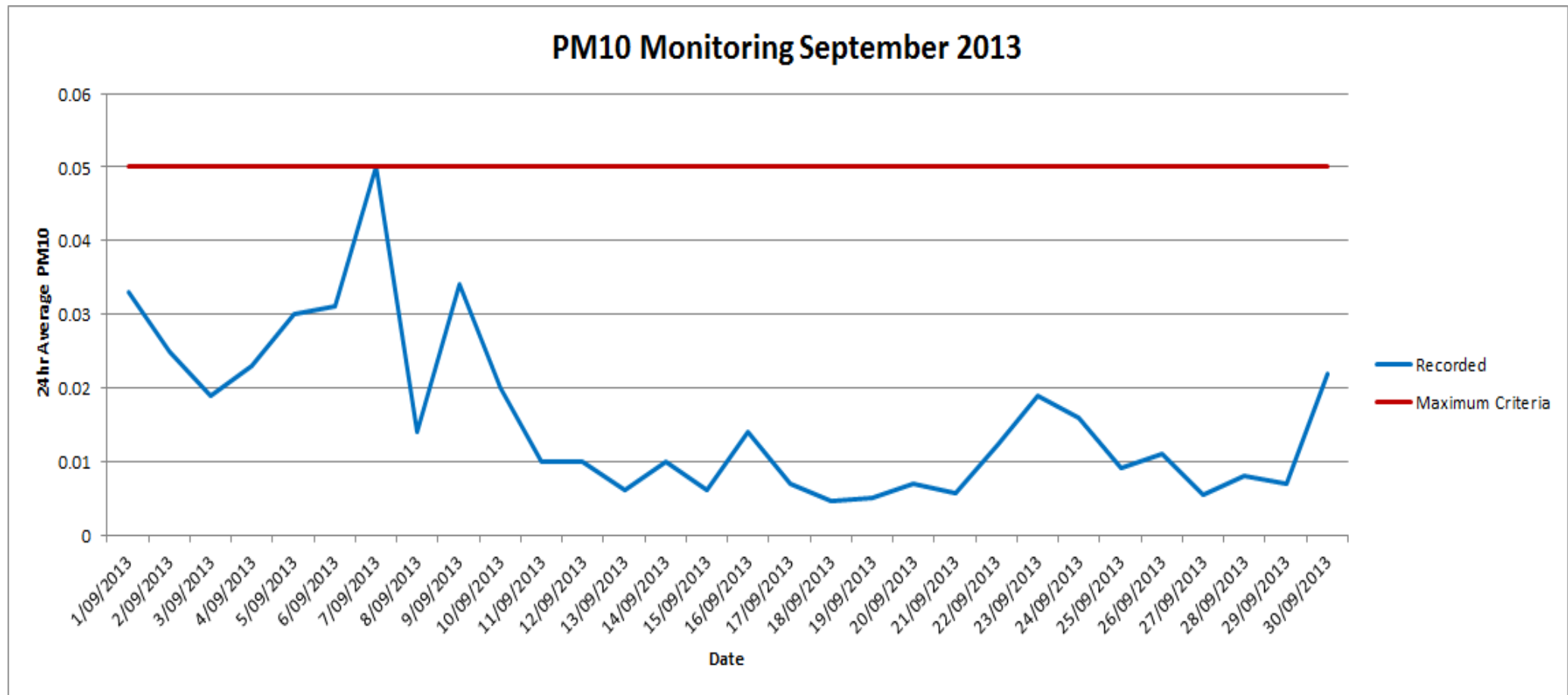
Dust Deposition Gauge Results - August 2013

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	0.8	1.2	2.0	EN1303552-003	4	Within EPA guideline levels	Earthworks Drainage works Deliveries Paving Concrete batch plant Structural works Utilities Noise wall install
2	14 The Esplanade	0.4	0.3	0.6	0.7	1.3	EN1303552-001	4	Within EPA guideline levels	
3	74 Australia Ave	1.0	0.3	0.6	1.3	1.9	EN1303552-002	4	Within EPA guideline levels	
4	Botany Golf Course	0.7	0.3	0.4	1.0	1.4	EN1303552-004	4	Within EPA guideline levels	

All Units in g/m².month



PM₁₀ Monitoring Results – September 2013



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Appendix 2 – Noise Monitoring Results

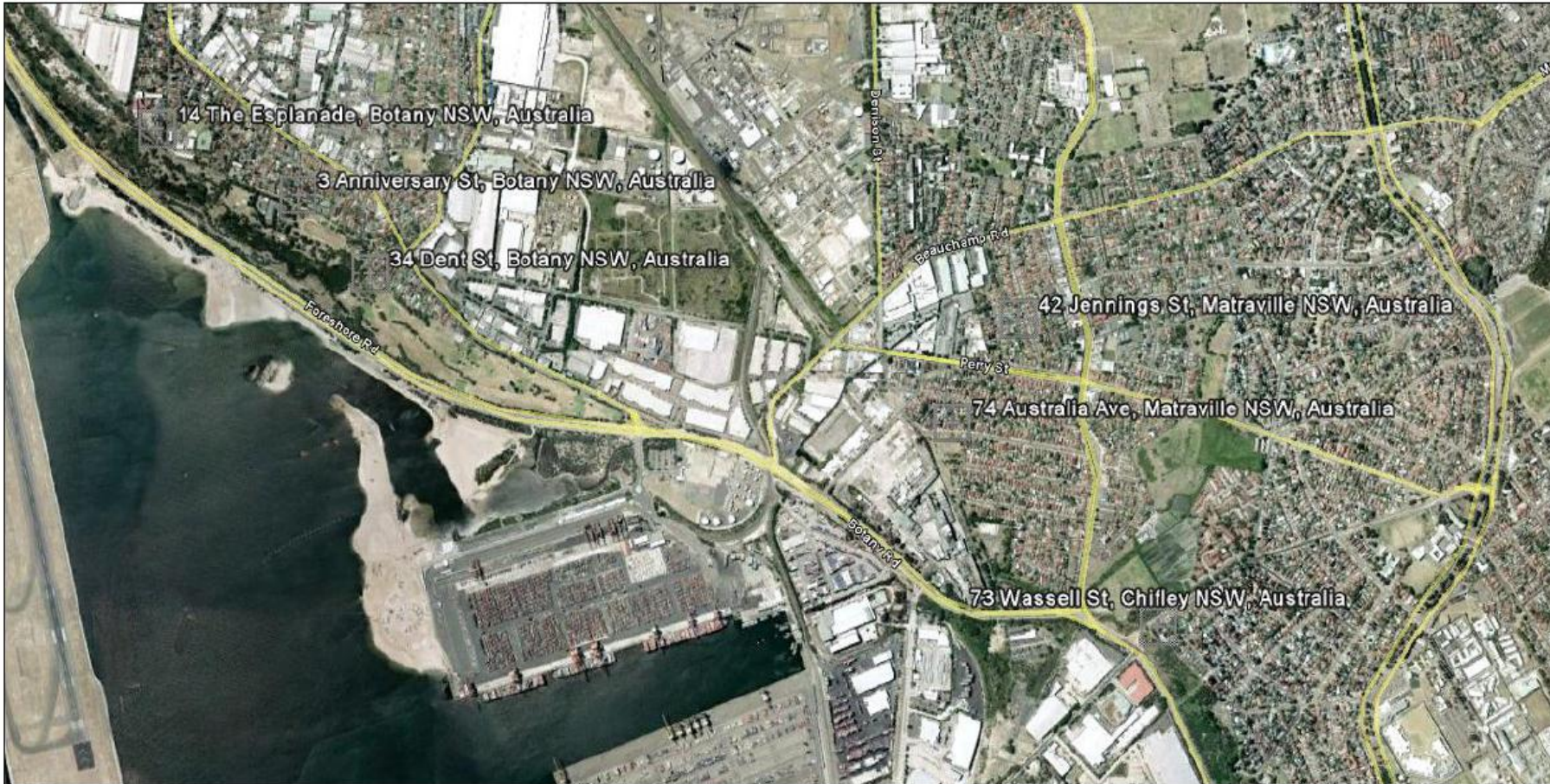
Day Monitoring

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 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	12/09/2013	10:30	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	49	54	58	63	61	52	4	Noise from Foreshore Rd traffic, aircraft noise, local traffic, park noise. Terminal 3 construction inaudible
Location 2 - Dent Street	34 Dent St	12/09/2013	11:20	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	47	52	64	66	64	60	12	Local traffic and foreshore road noise, aircraft noise, park noise. Terminal 3 construction inaudible
Location 3 - Jennings Street	42 Jennings St	12/09/2013	12:05	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	40	45	67	82	62	51	22	Local traffic noise, aircraft noise. Terminal 3 construction inaudible
Location 4- North of Golf Course	3 Anniversary Rd	12/09/2013	10:50	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	57	62	60	64	61	55	-2	Local traffic noise, aircraft noise. Terminal 3 construction inaudible
Location 5- Australia Avenue	74 Australia Ave	12/09/2013	13:00	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	42	47	57	62	59	54	10	Local/distant traffic noise, aircraft noise, local industry. Terminal 3 construction inaudible
Location 6- Military Road	73 Wassell St	12/09/2013	12:35	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	46	51	56	58	56	53	5	Noise from Bunnerong Rd, Local traffic noise, local industry. Terminal 3 construction inaudible

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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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 – September 2013 Terminal 3 Water Monitoring Results

Dewatering Location	Date	AM/PM	Meets Criteria	Discharge Location	Oil and Grease (visual)	Horiba Water Monitor	
						pH	Turbidity
SC07	2-Sep	AM	Yes	Bay - SC07	No	7.6	0.8
SC07	2-Sep	PM	Yes	Bay - SC07	No	7.3	1.5
SC07	3-Sep	AM	Yes	Bay - SC07	No	7.5	3.6
SC07	3-Sep	PM	Yes	Bay - SC07	No	7.2	2.8
SC07	4-Sep	AM	Yes	Bay - SC07	No	7.1	5.1
SC07	4-Sep	PM	Yes	Bay - SC07	No	6.9	4.3
SC07	5-Sep	AM	Yes	Bay - SC07	No	7.3	4.2
SC07	5-Sep	PM	Yes	Bay - SC07	No	6.9	5.1
SC07	6-Sep	AM	Yes	Bay - SC07	No	7.0	1.8
SC07	6-Sep	PM	Yes	Bay - SC07	No	7.1	1.6
SC07	9-Sep	AM	Yes	Bay - SC07	No	7.0	2.3
SC07	9-Sep	PM	Yes	Bay - SC07	No	7.3	0.8
SC07	10-Sep	AM	Yes	Bay - SC07	No	7.2	1.2
SC07	10-Sep	PM	Yes	Bay - SC07	No	7.5	2.4
SC07	11-Sep	AM	Yes	Bay - SC07	No	7.1	3.3
SC07	11-Sep	PM	Yes	Bay - SC07	No	7.4	6.4
SC07	12-Sep	AM	Yes	Bay - SC07	No	7.2	1.8
SC07	12-Sep	PM	Yes	Bay - SC07	No	7.3	1.6
SC07	13-Sep	AM	Yes	Bay - SC07	No	7.4	2.3
SC07	13-Sep	PM	Yes	Bay - SC07	No	7.3	3.1
SC07	24-Sep	AM	Yes	Bay - SC07	No	7.0	4.5
SC07	24-Sep	PM	Yes	Bay - SC07	No	6.9	2.0
SC07	25-Sep	AM	Yes	Bay - SC07	No	7.2	2.3
SC07	25-Sep	PM	Yes	Bay - SC07	No	6.9	2.5
SC07	26-Sep	AM	Yes	Bay - SC07	No	6.8	3.1
SC07	26-Sep	PM	Yes	Bay - SC07	No	7.1	4.8
SC07	27-Sep	AM	Yes	Bay - SC07	No	7.3	2.7
SC07	27-Sep	PM	Yes	Bay - SC07	No	7.2	6.1
SC07	30-Sep	AM	Yes	Bay - SC07	No	7.0	5.1
SC07	30-Sep	PM	Yes	Bay - SC07	No	7.2	8.9
Bay - SC07	2-Sep	AM	N/A	N/A	No	7.4	1.1
Bay - SC07	10-Sep	AM	N/A	N/A	No	7.7	2.1
Bay - SC07	24-Sep	AM	N/A	N/A	No	7.2	2.0
SC14b	2-Sep	AM	Yes	Estuary SC14	No	7.3	2.7
SC14b	2-Sep	PM	Yes	Estuary SC14	No	7.4	3.8
SC14b	3-Sep	AM	Yes	Estuary SC14	No	6.9	2.6
SC14b	3-Sep	PM	Yes	Estuary SC14	No	7.2	5.8
SC14b	4-Sep	AM	Yes	Estuary SC14	No	7.3	3.2
SC14b	4-Sep	PM	Yes	Estuary SC14	No	7.1	3.8
SC14b	5-Sep	AM	Yes	Estuary SC14	No	7.1	3.2
SC14b	5-Sep	PM	Yes	Estuary SC14	No	7.2	4.2
SC14b	6-Sep	AM	Yes	Estuary SC14	No	7.1	1.8
SC14b	6-Sep	PM	Yes	Estuary SC14	No	7.3	5.6
SC14b	9-Sep	AM	Yes	Estuary SC14	No	7.0	1.8

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SC14b	9-Sep	PM	Yes	Estuary SC14	No	7.3	2.6
SC14b	10-Sep	AM	Yes	Estuary SC14	No	7.5	3.1
Estuary SC14	2-Sep	AM	N/A	N/A	No	7.2	0.7
Estuary SC14	9-Sep	AM	N/A	N/A	No	7.3	1.5
SC14c	2-Sep	AM	Yes	Estuary SC14	No	6.8	3.8
SC14c	2-Sep	PM	Yes	Estuary SC14	No	6.9	4.2
SC14c	3-Sep	AM	Yes	Estuary SC14	No	7.4	2.9
SC14c	3-Sep	PM	Yes	Estuary SC14	No	7.6	1.8
SC14c	4-Sep	AM	Yes	Estuary SC14	No	7.4	2.6
SC14c	4-Sep	PM	Yes	Estuary SC14	No	7.4	2.3
SC14c	5-Sep	AM	Yes	Estuary SC14	No	7.5	4.8
SC14c	5-Sep	PM	Yes	Estuary SC14	No	7.3	4.6
SC14c	6-Sep	AM	Yes	Estuary SC14	No	7.2	5.2
SC14c	6-Sep	PM	Yes	Estuary SC14	No	7.2	1.8
SC14c	9-Sep	AM	Yes	Estuary SC14	No	7.0	3.1
SC14c	9-Sep	PM	Yes	Estuary SC14	No	7.2	2.0
SC14c	10-Sep	AM	Yes	Estuary SC14	No	7.1	1.6
Estuary SC14	2-Sep	AM	N/A	N/A	No	7.7	1.0
Estuary SC14	9-Sep	AM	N/A	N/A	No	7.5	1.3

Appendix 4 – September 2013 Terminal 3 Shorebird Observations

No shorebird observations were obtained this month. This may be due to the noise wall construction impeding views of Penrhyn Estuary from the Terminal 3 site.