



Environmental Monitoring Data

Project:	Sydney Metro City & Southwest– TSE Works
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01	12/08/2019	D. Windnagel	R. Muir	R. Muir	For publication

Project Summary

The Sydney Metro City and Southwest is the second portion of the new standalone rail network known as the Sydney Metro which is Australia’s largest public transport infrastructure project and a priority rail project for the NSW Government. John Holland CPB Ghella (JHCPBG) have been contracted by Transport for New South Wales to design and construct the Tunnel and Stations Excavation Works Project (TSE Works) of the Sydney Metro City & Southwest between Chatswood and Sydenham. Figure 1 provides an overview of the Project.



Figure 1: Project Overview

Environmental Protection Licence and Reporting Requirements

John Holland Pty Ltd obtained the Environment Protection Licence (EPL No. 20971) from the NSW Environment Protection Authority for the Tunnel and Station Excavation (TSE) Works on behalf of the John Holland CPB Ghella (JHCPBG) Joint Venture. The licence is for construction works relating to Rail Systems Activities and Concrete Works as defined under Schedule 1 of the *Protection of the Environment Operations Act, 1997* (POEO Act).

The licence describes monitoring and reporting requirements for the TSE Works, and specifically provides discharge criteria for water treatment plant and sediment basin water quality. The following report details environmental monitoring undertaken during this reporting month conducted in accordance with the EPL.

The EPL can be found by following the link below to the EPA’s website:

<https://apps.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=153426&SYSUID=1&LICID=20971>

Discharge Water Monitoring

Testing and discharge was undertaken during this reporting period. Table 1 contains the discharge monitoring results.

Noise and Vibration Monitoring

Noise and vibration monitoring was undertaken during this reporting period. Table 2 contains the vibration monitoring results, and Table 3 contains the noise monitoring results.

Real-Time Noise and Vibration Monitoring

Real-time noise and vibration monitors were operating at Barangaroo, Crows Nest, Martin Place, Pitt Street, and Victoria Cross during the July reporting period. Table 4.1 and 4.2 contains summarised real-time noise monitoring results and real-time vibration data is displayed in Table 5.

Table 1: Discharge Water Monitoring Data.

Monitoring Point	Identifier ¹	Date Sampled	Event Based Monitoring (Y/N)	Parameter/ Criteria/ Measured Value			Comments
				pH (6.5 - 8.5)	Turbidity (<35 NTU)	Oil & Grease (None Visible)	
2	CD_02	08/07/2019	Y	7.3	<10	Nil	Discharge permit issued
3	VC_03	1/07/2019	Y	7.7	<1	Nil	Discharge permit issued
2	BN_02	1/07/2019	Y	7.2	<1.0	Nil	Discharge permit issued
2	BL_02	1/07/2019	Y	6.7	7.2	Nil	Discharge permit issued
3	PS_03	28/06/2019	Y	7.5	11	Nil	Discharge permit issued
1	MDS_01	5/07/2019	Y	7.7	10.7	Nil	Discharge permit issued

¹ As per discharge point identified in Sydney Metro City and Southwest Temporary Basin and Water Treatment Discharge Point Schedule

There is no discharge from the Waterloo site as the plant was decommissioned prior to the start of this monitoring period.

Table 2: Vibration Monitoring Data.

Monitoring location	Monitoring Date	Attended or Continuous Monitoring	Event Based Monitoring (Y/N)	Measured VDV (m/s ^{1.75})	VDV Target (m/s ^{1.75})	VDV Compliant	Measured PPV (mm/s)	PPV Target (mm/s)	PPV Compliant
54 Hayberry St, Crows Nest	31/7/2019	Attended	Y	0.06	0.4	Y	0.14	7.5	Y

Table 3: Noise Monitoring Data

Monitoring Location (Noise-Catchment Area, Street, Suburb)	Monitoring Date	Attended or Continuous Monitoring	Event Based Monitoring (Y/N)	Parameter	Measured Value dB(A)	Goals / Targets dB(A)	Comments
BN_03, 30 High Street, Millers Point	01/07/2019	Attended	Y	Laeq 15 mins	54.4	55	TSE works compliant.
MDS_02, 328 Edgeware Road, Newtown	02/07/2019	Attended	Y	Laeq 15 mins	64.9	68	TSE works inaudible.
BN_03, 44 High Street, Millers Point	02/07/2019	Attended	Y	Laeq 15 mins	55.1	55	TSE Works compliant, traffic dominant noise source
BN_03, 44 High Street, Millers Point	02/07/2019	Attended	Y	Laeq 15 mins	55.9	50	TSE Works compliant, traffic dominant noise source
BN_03, 30 High Street, Millers Point	02/07/2019	Attended	Y	Laeq 15 mins	55.7	55	TSE Works compliant, traffic dominant noise source
BN_03, 44 High Street, Millers Point	02/07/2019	Attended	Y	Laeq 15 mins	55.9	50	TSE Works compliant, traffic dominant noise source
BN_03, 30 High Street, Millers Point	02/07/2019	Attended	Y	Laeq 15 mins	55.7	55	TSE Works compliant, traffic dominant noise source
BN_03, 30 High Street, Millers Point	02/07/2019	Attended	Y	Laeq 15 mins	52.7	50	TSE works compliant.
WS_01, 118 Regent Street, Redfern	02/07/2019	Attended	Y	Laeq 15 mins	40.2	45	TSE Works compliant, traffic dominant noise source
WS_01, 118 Regent Street, Redfern	02/07/2019	Attended	Y	Laeq 15 mins	41.1	45	TSE Works compliant, traffic dominant noise source
BN_03, 30 High Street, Millers Point	03/07/2019	Attended	Y	Laeq 15 mins	55.9	55	TSE works inaudible.
CDS_06, 342 Mowbray Rd, Chatswood	20/07/2019	Attended	Y	Laeq 15 mins	66.5	55	TSE works inaudible.
CDS_06, Inside Mowbray house	23/07/2019	Attended	Y	Laeq 15 mins	37.8	37	TSE works compliant, traffic dominant noise source.

Monitoring Location (Noise-Catchment Area, Street, Suburb)	Monitoring Date	Attended or Continuous Monitoring	Event Based Monitoring (Y/N)	Parameter	Measured Value dB(A)	Goals / Targets dB(A)	Comments
CDS_06, 342 Mowbray Rd, Chatswood	23/07/2019	Attended	Y	Laeq 15 mins	69.5	37	TSE Works compliant, traffic dominant noise source
BN_03, 40 High Street, Barangaroo	24/07/2019	Attended	Y	Laeq 15 mins	55.0	55	TSE works compliant.
WS_02, 209 Cope Street, Waterloo	25/07/2019	Attended	Y	Laeq 15 mins	46.5	44	TSE works compliant.
WS_03, 134 Wellington Street, Waterloo	25/07/2019	Attended	Y	Laeq 15 mins	62.0	71	TSE works complaint.
CDS_06, 342 Mowbray Rd, Chatswood	29/07/2019	Attended	Y	Laeq 15 mins	65.9	55	TSE Works compliant, traffic dominant noise source
TUN, 54 Hayberry Street, Crows Nest	31/07/2019	Attended	Y	Laeq 15 mins	29.6	45	TSE works compliant.
TUN, 50 Emmett Lane, Crows Nest	31/07/2019	Attended	Y	Laeq 15 mins	41.0	40	TSE works compliant. Non-TSE works dominant noise source.
BP_02, 15 Blues Point Road, McMahons Point	31/07/2019	Attended	Y	Laeq 15 mins	54.9	55	TSE works complaint.

Table 4-1 Summary Table of Real Time Noise Data Compared Against EPL Condition E1.1.

Do Real-Time Noise Monitoring Results Comply with EPL Condition E1.1?																		
Date	545 Pacific Hwy		10 to 12 Clarke Street		65 Berry Street		Castlereagh Boutique Hotel		Edinburgh Castle Hotel		50 Martin Place		25A Hickson Road		243 Miller Street		60 Castlereagh Street (Basement)	
	Noise Limit	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	
01/07/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
02/07/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
03/07/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
04/07/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
05/07/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
06/07/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
07/07/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
08/07/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
09/07/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10/07/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
11/07/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12/07/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
13/07/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
14/07/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
15/07/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
16/07/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
17/07/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
18/07/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
19/07/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
20/07/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
21/07/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
22/07/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
23/07/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
24/07/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
25/07/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
26/07/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
27/07/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
28/07/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
29/07/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
30/07/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
31/07/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 4-2: Real-Time Noise Monitoring Data

Report for Condition E1.1 on 01/07/2019				
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?
		Permitted	Exceeded	
545 Pacific Highway	Upper	26	0	Yes
	Lower	39	0	Yes
10 to 12 Clarke Street	Upper	26	3	Yes
	Lower	39	27	Yes
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	11	Yes
	Lower	39	18	Yes
50 Martin Place	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
243 Miller St	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	5	Yes
	Lower	39	20	Yes
Report for Condition E1.1 on 02/07/2019				
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?
		Permitted	Exceeded	
545 Pacific Highway	Upper	26	0	Yes
	Lower	39	0	Yes
10 to 12 Clarke Street	Upper	26	2	Yes
	Lower	39	18	Yes
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	13	Yes
	Lower	39	18	Yes
50 Martin Place	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
243 Miller St	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	5	Yes
	Lower	39	15	Yes

Report for Condition E1.1 on 03/07/2019				
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?
		Permitted	Exceeded	
545 Pacific Highway	Upper	26	0	Yes
	Lower	39	0	Yes
10 to 12 Clarke Street	Upper	26	3	Yes
	Lower	39	21	Yes
65 Berry St	Upper	26	1	Yes
	Lower	39	1	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	17	Yes
	Lower	39	22	Yes
50 Martin Place	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	8	Yes
	Lower	39	17	Yes
Report for Condition E1.1 on 04/07/2019				
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?
		Permitted	Exceeded	
545 Pacific Highway	Upper	26	0	Yes
	Lower	39	0	Yes
10 to 12 Clarke Street	Upper	26	1	Yes
	Lower	39	24	Yes
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	8	Yes
	Lower	39	19	Yes
50 Martin Place	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	10	Yes
	Lower	39	17	Yes

Report for Condition E1.1 on 05/07/2019				
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?
		Permitted	Exceeded	
545 Pacific Highway	Upper	26	0	Yes
	Lower	39	0	Yes
10 to 12 Clarke Street	Upper	26	13	Yes
	Lower	39	36	Yes
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	12	Yes
	Lower	39	29	Yes
50 Martin Place	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	14	Yes
	Lower	39	22	Yes
Report for Condition E1.1 on 06/07/2019				
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?
		Permitted	Exceeded	
545 Pacific Highway	Upper	26	0	Yes
	Lower	39	0	Yes
10 to 12 Clarke Street	Upper	26	6	Yes
	Lower	39	13	Yes
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	5	Yes
	Lower	39	10	Yes
50 Martin Place	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	8	Yes
	Lower	39	12	Yes

Report for Condition E1.1 on 07/07/2019				
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?
		Permitted	Exceeded	
545 Pacific Highway	Upper	26	0	Yes
	Lower	39	0	Yes
10 to 12 Clarke Street	Upper	26	0	Yes
	Lower	39	0	Yes
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	1	Yes
50 Martin Place	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	8	Yes
	Lower	39	13	Yes
Report for Condition E1.1 on 08/07/2019				
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?
		Permitted	Exceeded	
545 Pacific Highway	Upper	26	0	Yes
	Lower	39	0	Yes
10 to 12 Clarke Street	Upper	26	18	Yes
	Lower	39	26	Yes
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	5	Yes
	Lower	39	16	Yes
50 Martin Place	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	8	Yes
	Lower	39	11	Yes

Report for Condition E1.1 on 09/07/2019				
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?
		Permitted	Exceeded	
545 Pacific Highway	Upper	26	0	Yes
	Lower	39	0	Yes
10 to 12 Clarke Street	Upper	26	6	Yes
	Lower	39	33	Yes
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	3	Yes
	Lower	39	18	Yes
50 Martin Place	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	12	Yes
	Lower	39	19	Yes
Report for Condition E1.1 on 10/07/2019				
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?
		Permitted	Exceeded	
545 Pacific Highway	Upper	26	0	Yes
	Lower	39	0	Yes
10 to 12 Clarke Street	Upper	26	2	Yes
	Lower	39	32	Yes
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	6	Yes
	Lower	39	15	Yes
50 Martin Place	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	30	No
	Lower	39	39	Yes

Report for Condition E1.1 on 11/07/2019				
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?
		Permitted	Exceeded	
545 Pacific Highway	Upper	26	0	Yes
	Lower	39	0	Yes
10 to 12 Clarke Street	Upper	26	11	Yes
	Lower	39	36	Yes
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	2	Yes
	Lower	39	10	Yes
50 Martin Place	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	14	Yes
	Lower	39	30	Yes
Report for Condition E1.1 on 12/07/2019				
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?
		Permitted	Exceeded	
545 Pacific Highway	Upper	26	0	Yes
	Lower	39	0	Yes
10 to 12 Clarke Street	Upper	26	8	Yes
	Lower	39	21	Yes
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	1	Yes
Edinburgh Castle Hotel	Upper	26	6	Yes
	Lower	39	22	Yes
50 Martin Place	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	14	Yes
	Lower	39	19	Yes

Report for Condition E1.1 on 13/07/2019				
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?
		Permitted	Exceeded	
545 Pacific Highway	Upper	26	0	Yes
	Lower	39	0	Yes
10 to 12 Clarke Street	Upper	26	0	Yes
	Lower	39	7	Yes
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	3	Yes
	Lower	39	3	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	4	Yes
50 Martin Place	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	8	Yes
	Lower	39	11	Yes
Report for Condition E1.1 on 14/07/2019				
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?
		Permitted	Exceeded	
545 Pacific Highway	Upper	26	0	Yes
	Lower	39	0	Yes
10 to 12 Clarke Street	Upper	26	0	Yes
	Lower	39	0	Yes
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
50 Martin Place	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	8	Yes
	Lower	39	11	Yes

Report for Condition E1.1 on 15/07/2019				
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?
		Permitted	Exceeded	
545 Pacific Highway	Upper	26	0	Yes
	Lower	39	0	Yes
10 to 12 Clarke Street	Upper	26	0	Yes
	Lower	39	10	Yes
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	3	Yes
	Lower	39	6	Yes
50 Martin Place	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	9	Yes
	Lower	39	15	Yes
Report for Condition E1.1 on 16/07/2019				
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?
		Permitted	Exceeded	
545 Pacific Highway	Upper	26	0	Yes
	Lower	39	0	Yes
10 to 12 Clarke Street	Upper	26	7	Yes
	Lower	39	31	Yes
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	1	Yes
	Lower	39	7	Yes
50 Martin Place	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	9	Yes
	Lower	39	17	Yes

Report for Condition E1.1 on 17/07/2019				
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?
		Permitted	Exceeded	
545 Pacific Highway	Upper	26	0	Yes
	Lower	39	0	Yes
10 to 12 Clarke Street	Upper	26	7	Yes
	Lower	39	34	Yes
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	8	Yes
50 Martin Place	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	24	Yes
	Lower	39	30	Yes
Report for Condition E1.1 on 18/07/2019				
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?
		Permitted	Exceeded	
545 Pacific Highway	Upper	26	0	Yes
	Lower	39	0	Yes
10 to 12 Clarke Street	Upper	26	10	Yes
	Lower	39	34	Yes
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	14	Yes
	Lower	39	18	Yes
50 Martin Place	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	11	Yes
	Lower	39	16	Yes

Report for Condition E1.1 on 19/07/2019				
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?
		Permitted	Exceeded	
545 Pacific Highway	Upper	26	0	Yes
	Lower	39	0	Yes
10 to 12 Clarke Street	Upper	26	0	Yes
	Lower	39	19	Yes
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	10	Yes
	Lower	39	27	Yes
50 Martin Place	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	9	Yes
	Lower	39	15	Yes
Report for Condition E1.1 on 20/07/2019				
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?
		Permitted	Exceeded	
545 Pacific Highway	Upper	26	0	Yes
	Lower	39	0	Yes
10 to 12 Clarke Street	Upper	26	2	Yes
	Lower	39	10	Yes
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	10	Yes
	Lower	39	12	Yes
50 Martin Place	Upper	26	1	Yes
	Lower	39	2	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	8	Yes
	Lower	39	13	Yes

Report for Condition E1.1 on 21/07/2019				
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?
		Permitted	Exceeded	
545 Pacific Highway	Upper	26	0	Yes
	Lower	39	0	Yes
10 to 12 Clarke Street	Upper	26	0	Yes
	Lower	39	0	Yes
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
50 Martin Place	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	8	Yes
	Lower	39	11	Yes
Report for Condition E1.1 on 22/07/2019				
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?
		Permitted	Exceeded	
545 Pacific Highway	Upper	26	0	Yes
	Lower	39	0	Yes
10 to 12 Clarke Street	Upper	26	0	Yes
	Lower	39	24	Yes
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	5	Yes
	Lower	39	14	Yes
50 Martin Place	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	10	Yes
	Lower	39	16	Yes

Report for Condition E1.1 on 23/07/2019				
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?
		Permitted	Exceeded	
545 Pacific Highway	Upper	26	0	Yes
	Lower	39	0	Yes
10 to 12 Clarke Street	Upper	26	8	Yes
	Lower	39	24	Yes
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	3	Yes
	Lower	39	20	Yes
50 Martin Place	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	6	Yes
	Lower	39	14	Yes
Report for Condition E1.1 on 24/07/2019				
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?
		Permitted	Exceeded	
545 Pacific Highway	Upper	26	0	Yes
	Lower	39	0	Yes
10 to 12 Clarke Street	Upper	26	9	Yes
	Lower	39	29	Yes
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	1	Yes
	Lower	39	1	Yes
Edinburgh Castle Hotel	Upper	26	4	Yes
	Lower	39	16	Yes
50 Martin Place	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	2	Yes

Report for Condition E1.1 on 25/07/2019				
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?
		Permitted	Exceeded	
545 Pacific Highway	Upper	26	0	Yes
	Lower	39	0	Yes
10 to 12 Clarke Street	Upper	26	1	Yes
	Lower	39	21	Yes
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	13	Yes
50 Martin Place	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	5	Yes
Report for Condition E1.1 on 26/07/2019				
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?
		Permitted	Exceeded	
545 Pacific Highway	Upper	26	0	Yes
	Lower	39	0	Yes
10 to 12 Clarke Street	Upper	26	5	Yes
	Lower	39	18	Yes
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	4	Yes
	Lower	39	32	Yes
50 Martin Place	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	3	Yes

Report for Condition E1.1 on 27/07/2019				
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?
		Permitted	Exceeded	
545 Pacific Highway	Upper	26	0	Yes
	Lower	39	0	Yes
10 to 12 Clarke Street	Upper	26	9	Yes
	Lower	39	26	Yes
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	2	Yes
50 Martin Place	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	6	Yes
	Lower	39	6	Yes
Report for Condition E1.1 on 28/07/2019				
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?
		Permitted	Exceeded	
545 Pacific Highway	Upper	26	0	Yes
	Lower	39	0	Yes
10 to 12 Clarke Street	Upper	26	0	Yes
	Lower	39	0	Yes
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
50 Martin Place	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	2	Yes

Report for Condition E1.1 on 29/07/2019				
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?
		Permitted	Exceeded	
545 Pacific Highway	Upper	26	0	Yes
	Lower	39	0	Yes
10 to 12 Clarke Street	Upper	26	1	Yes
	Lower	39	14	Yes
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	1	Yes
	Lower	39	12	Yes
50 Martin Place	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	4	Yes
Report for Condition E1.1 on 30/07/2019				
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?
		Permitted	Exceeded	
545 Pacific Highway	Upper	26	0	Yes
	Lower	39	0	Yes
10 to 12 Clarke Street	Upper	26	0	Yes
	Lower	39	18	Yes
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	11	Yes
50 Martin Place	Upper	26	0	Yes
	Lower	39	1	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	1	Yes
	Lower	39	4	Yes

Report for Condition E1.1 on 31/07/2019				
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?
		Permitted	Exceeded	
10 to 12 Clarke Street	Upper	26	0	Yes
	Lower	39	16	Yes
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	1	Yes
	Lower	39	6	Yes
50 Martin Place	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	2	Yes

Real Time Noise Analysis Results Comments:

60 Castlereagh Street, Sydney.

A noise alarm was triggered at 60 Castlereagh Street on 10 July 2019, the Community Place Manager contacted 60 Castlereagh Street building facilities manager. The facilities manager stated that he had contractors working within the same room as the noise monitor is located and would be the main cause of elevated noise readings. It was therefore concluded that the alarm was not due to TSE works.

Table 5: Real-Time Vibration Monitoring Data (Maximum recorded value per day)

Day	22 Clarke Street, Crows Nest	10 to 12 Clarke Street, Crows Nest	65 Berry Street, North Sydney	237 Miller Street, North Sydney	243 Miller Street, North Sydney	25A Hickson Road, Millers Point	50 Martin Place, Sydney	60 Castlereagh Street (Basement), Sydney	Castlereagh Boutique Hotel	211-217 Castlereagh Street, Sydney
Criteria (mm/S)	25	25	25	25	7.5	25	7.5	25	7.5	25
01/07/2019	1.1	0.46	2.9	0.55	2.69	0.33	0.29	0.3	1	0.29
02/07/2019	0.34	1.44	0.53	-	1.21	0.2	0.45	0.33	0.78	0.67
03/07/2019	0.64	0.33	0.48	-	-	0.3	0.29	0.18	1.04	0.45
04/07/2019	0.43	0.54	0.41	-	-	0.11	0.29	0.21	1.9	0.38
05/07/2019	1	0.64	0.44	0.11	-	0.11	0.58	0.26	1.46	0.36
06/07/2019	0.49	0.38	0.36	0.14	-	0.15	0.29	0.36	0.48	0.47
07/07/2019	0.51	0.16	0.26	0.11	-	0.11	0.61	0.54	0.1	0.06
08/07/2019	1.01	0.89	0.23	0.43	-	0.11	0.31	0.33	1.12	0.47
09/07/2019	1.49	0.77	0.24	1.65	-	1.33	0.35	0.28	2.23	0.25
10/07/2019	0.46	0.28	0.27	0.22	-	0.13	0.32	0.46	4.08	0.25
11/07/2019	0.77	0.41	0.39	-	-	0.13	0.37	0.36	1.42	0.3
12/07/2019	0.58	0.6	0.51	-	-	0.26	0.42	0.44	3.31	1.01
13/07/2019	0.43	0.18	0.36	-	-	0.11	0.31	0.39	1.2	0.54
14/07/2019	1.35	0.18	0.32	-	-	0.18	0.32	0.46	0.13	0.08
15/07/2019	0.47	0.22	0.51	-	-	0.13	0.42	0.54	1	0.2
16/07/2019	0.53	0.46	0.68	-	-	0.11	0.42	0.51	1.01	0.57
17/07/2019	0.74	0.71	0.27	-	-	0.1	0.36	0.82	1.39	0.24
18/07/2019	0.92	0.43	0.37	-	-	0.13	0.45	0.77	2.31	0.19
19/07/2019	0.99	0.38	0.35	-	-	0.2	0.56	0.69	1.01	0.42
20/07/2019	0.64	0.36	0.35	-	-	0.34	0.35	0.95	0.71	0.37
21/07/2019	0.81	0.19	0.36	-	-	0.11	0.27	1.52	0.81	0.08
22/07/2019	0.73	3.94	0.47	-	-	0.28	0.29	1.16	1.95	0.46
23/07/2019	1.04	0.35	0.27	-	-	0.38	0.57	0.98	4.02	0.1
24/07/2019	1.01	0.22	0.27	-	-	0.13	0.8	0.82	1.62	0.15
25/07/2019	1.57	0.43	0.59	-	-	0.2	0.5	0.77	2.25	0.54
26/07/2019	0.85	0.38	0.32	-	-	0.76	1.04	0.98	1.89	1.31
27/07/2019	0.93	1.17	0.66	-	-	0.15	0.48	1	1.45	0.62
28/07/2019	0.43	0.68	0.29	-	-	0.11	0.27	1.65	0.12	0.09
29/07/2019	0.89	0.33	0.45	-	-	0.24	1.46	1.59	1.17	0.53
30/07/2019	0.63	0.3	0.59	-	-	0.08	1.76	1.39	3.99	0.36
31/07/2019	0.55	0.3	0.75	-	-	0.13	0.28	0.87	2.12	0.42

Real-Time Vibration Results Comments:

237 Miller Street, North Sydney

The vibration meter located at 237 Miller Street was experiencing technical difficulties during the July monitoring period, it is understood that the unit relies on power sourced from a power point in the basement of the apartment building carpark. It was noted on several occasions that the unit had

been unplugged from the wall and therefore was running out of charge. Power was restored to the unit on 5th August 2019 and has been operational ever since.

243 Miller Street, North Sydney

The vibration unit located at 243 Miller Street was removed on the 2nd July 2019 and therefore was not recording data after this date.