



# Environmental Monitoring Data

Project:	Sydney Metro City & Southwest– TSE Works
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## Document Approval

Rev.	Date	Prepared by	Reviewed by	Approved by	Remarks
01	13/10/18	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/SearchResult.aspx?SearchTag=licence&searchrange=licence&range=licence>

### **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 installed at Barangaroo, Crows Nest, Martin Place, Pitt Street, and Victoria Cross during the October 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 <sup>1</sup>	Date Sampled	Event Based Monitoring (Y/N)	Parameter/ Criteria/ Measured Value			Comments
				pH (6.5 - 8.5)	Turbidity (<35 NTU)	Oil & Grease (None Visible)	
1	MD-01	01/10/2018	Y	7.7	16	Nil	Water Treatment Plant
1	WL_01	02/10/2018	Y	7.01	10.33	Nil	Water Treatment Plant
3	PS_03	02/10/2018	Y	7.74	0.8	Nil	Water Treatment Plant
1	MD-01	02/10/2018	Y	7.5	0.3	Nil	Water Treatment Plant
3	PS_03	03/10/2018	Y	7.8	4.7	Nil	Water Treatment Plant
1	WL_01	03/10/2018	Y	7.41	11.59	Nil	Water Treatment Plant
2	CD_02	03/10/2018	Y	7.6	2.1	Nil	Water Treatment Plant
1	MD-01	03/10/2018	Y	7.5	0.8	Nil	Water Treatment Plant
2	CD_02	04/10/2018	Y	7.7	7.7	Nil	Water Treatment Plant
2	BL_02	04/10/2018	Y	8.1	9.3	Nil	Water Treatment Plant
1	MD-01	04/10/2018	Y	7.6	0.8	Nil	Water Treatment Plant
3	PS_03	05/10/2018	Y	7.35	7.5	Nil	Water Treatment Plant
2	CD_02	05/10/2018	Y	7.7	1.7	Nil	Water Treatment Plant
1	MD-01	05/10/2018	Y	7.5	0.4	Nil	Water Treatment Plant
2	CD_02	06/10/2018	Y	7.5	3	Nil	Water Treatment Plant
1	MD-01	06/10/2018	Y	7.5	15.9	Nil	Water Treatment Plant
2	CD_02	07/10/2018	Y	7.3	4.8	Nil	Water Treatment Plant
1	MD-01	07/10/2018	Y	7.6	16	Nil	Water Treatment Plant
2	BN_02	07/10/2018	Y	8.2	1.3	Nil	Water Treatment Plant
3	PS_03	08/10/2018	Y	7.41	3.9	Nil	Water Treatment Plant
1	WL_01	08/10/2018	Y	7.67	13.62	Nil	Water Treatment Plant
2	CD_02	08/10/2018	Y	7.3	5.6	Nil	Water Treatment Plant
1	MD-01	08/10/2018	Y	7.6	16.5	Nil	Water Treatment Plant

Monitoring Point	Identifier <sup>1</sup>	Date Sampled	Event Based Monitoring (Y/N)	Parameter/ Criteria/ Measured Value			Comments
				pH (6.5 - 8.5)	Turbidity (<35 NTU)	Oil & Grease (None Visible)	
1	CD_02	09/10/2018	Y	7.5	1.2	Nil	Water Treatment Plant
1	MD-01	09/10/2018	Y	7.6	17.7	Nil	Water Treatment Plant
1	WL_01	10/10/2018	Y	N/A	N/A	Nil	Controlled water overflow
2	CD_02	10/10/2018	Y	7.5	5.6	Nil	Water Treatment Plant
1	MD-01	10/10/2018	Y	7.7	20.1	Nil	Water Treatment Plant
2	CD_02	11/10/2018	Y	7.6	1.6	Nil	Water Treatment Plant
1	MD-01	11/10/2018	Y	7.6	15	Nil	Water Treatment Plant
3	PS_03	12/10/2018	Y	7.87	5.8	Nil	Water Treatment Plant
2	CD_02	12/10/2018	Y	7.6	1.6	Nil	Water Treatment Plant
1	MD-01	12/10/2018	Y	7.6	15.6	Nil	Water Treatment Plant
3	PS_03	13/10/2018	Y	7.28	1.4	Nil	Water Treatment Plant
1	MD-01	13/10/2018	Y	7.6	15.4	Nil	Water Treatment Plant
2	BN_02	14/10/2018	Y	8	1.1	Nil	Water Treatment Plant
1	MD-01	14/10/2018	Y	7.5	18	Nil	Water Treatment Plant
1	WL_01	15/10/2018	Y	7.04	4.14	Nil	Water Treatment Plant
1	WL_01	15/10/2018	Y	N/A	N/A	Nil	Controlled water overflow
2	CD_02	15/10/2018	Y	7.4	0.5	Nil	Water Treatment Plant
1	MD-01	15/10/2018	Y	7.9	18.7	Nil	Water Treatment Plant
3	PS_03	16/10/2018	Y	7.18	2.9	Nil	Water Treatment Plant
2	CD_02	16/10/2018	Y	7.5	10.7	Nil	Water Treatment Plant
1	MD-01	16/10/2018	Y	7.7	19.7	Nil	Water Treatment Plant
2	CD_02	17/10/2018	Y	7.6	2.4	Nil	Water Treatment Plant
1	MD-01	17/10/2018	Y	7.7	21	Nil	Water Treatment Plant
3	PS_03	18/10/2018	Y	7.66	0.2	Nil	Water Treatment Plant

Monitoring Point	Identifier <sup>1</sup>	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	18/10/2018	Y	7.5	1.3	Nil	Water Treatment Plant
1	MD-01	18/10/2018	Y	7.7	19.9	Nil	Water Treatment Plant
2	CD_02	19/10/2018	Y	7.5	4.7	Nil	Water Treatment Plant
3	PS_03	19/10/2018	Y	7.59	0.1	Nil	Water Treatment Plant
1	MD-01	19/10/2018	Y	7.7	19.7	Nil	Water Treatment Plant
2	CD_02	20/10/2018	Y	7.5	7.7	Nil	Water Treatment Plant
2	CD_02	21/10/2018	Y	7.5	4.4	Nil	Water Treatment Plant
2	BN_02	21/10/2018	Y	7.5	6.5	Nil	Water Treatment Plant
3	PS_03	22/10/2018	Y	7.76	0.1	Nil	Water Treatment Plant
1	WL_01	22/10/2018	Y	7.32	2.16	Nil	Water Treatment Plant
2	CD_02	22/10/2018	Y	7.6	7.7	Nil	Water Treatment Plant
2	CD_02	23/10/2018	Y	7.7	6.7	Nil	Water Treatment Plant
2	CD_02	24/10/2018	Y	8	7.6	Nil	Water Treatment Plant
2	CD_02	25/10/2018	Y	7.7	0.1	Nil	Water Treatment Plant
1	MD-01	25/10/2018	Y	8.1	18.2	Nil	Water Treatment Plant
2	CD_02	26/10/2018	Y	7.6	0.8	Nil	Water Treatment Plant
1	MD-01	26/10/2018	Y	7.6	18.4	Nil	Water Treatment Plant
1	MD-01	27/10/2018	Y	7.5	19.3	Nil	Water Treatment Plant
2	CD_02	27/10/2018	Y	7.5	1.5	Nil	Water Treatment Plant
2	BN_02	28/10/2018	Y	7.8	8.7	Nil	Water Treatment Plant
1	WL_01	29/10/2018	Y	7.8	5.1	Nil	Water Treatment Plant
1	MD-01	29/10/2018	Y	8.5	18.7	Nil	Water Treatment Plant
2	CD_02	29/10/2018	Y	7.5	1	Nil	Water Treatment Plant
2	CD_02	30/10/2018	Y	7.4	1	Nil	Water Treatment Plant

Monitoring Point	Identifier <sup>1</sup>	Date Sampled	Event Based Monitoring (Y/N)	Parameter/ Criteria/ Measured Value			Comments
				pH (6.5 - 8.5)	Turbidity (<35 NTU)	Oil & Grease (None Visible)	
3	PS_03	31/10/2018	Y	6.7	13	Nil	Water Treatment Plant
2	BL_02	31/10/2018	Y	7.4	5.6	Nil	Water Treatment Plant
2	CD_02	31/10/2018	Y	7.4	2.6	Nil	Water Treatment Plant

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

Table 2: Vibration Monitoring Data.

Monitoring location	Monitoring Date	Attended or Continuous Monitoring	Event Based Monitoring (Y/N)	Measured Value (mm/s)	Goals / Targets (mm/s)	Comments
MP_04, 50 Martin Place (SE corner of Service Corridor)	18/10/2018	Attended	Y	0.1	7.50	TSE Works Compliant
Mowbray House, Chatswood Site	19/10/2018	Continuous	Y	0.16	7.50	TSE Works Compliant
Mowbray House, Chatswood Site	20/10/2018	Continuous	Y	1.63	7.50	TSE Works Compliant
Mowbray House, Chatswood Site	21/10/2018	Continuous	Y	0.22	7.50	TSE Works Compliant
Mowbray House, Chatswood Site	22/10/2018	Continuous	Y	8.04	7.50	The room where vibration monitor was installed was being used for a meeting at this time. Vibration exceedance attributed to people moving near the monitor not TSE construction works.
Mowbray House, Chatswood Site	23/10/2018	Continuous	Y	0.59	7.50	TSE Works Compliant

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
VC_07, 77 Berry Street, North Sydney	02/10/2018	Attended	Y	Laeq 15min	63.1	68	TSE Works Compliant
VC_07, 119 Miller Street, North Sydney	02/10/2018	Attended	Y	Laeq 15min	67.2	60	TSE Works Compliant. Traffic Dominant Noise Source
PS_03, 488 George Street, Sydney	02/10/2018	Attended	Y	Laeq 15min	70.4	75	TSE Works Compliant.
WS_01, 125 Raglan Street	02/10/2018	Attended	Y	Laeq 15min	61.3	86	TSE Works Compliant.
MDS_02, 328 Edgeware Road	02/10/2018	Attended	Y	Laeq 15min	63.8	57	TSE Works Compliant. Traffic Dominant Noise Source
VC_01, 100 Miller Street, North Sydney	03/10/2018	Attended	Y	Laeq 15min	61.8	70	TSE Works Compliant
VC_07, 199 Miller Street, North Sydney	03/10/2018	Attended	Y	Laeq 15min	61.7	60	TSE Works Compliant. Traffic Dominant Noise Source
PS_03, 488 George Street	03/10/2018	Attended	Y	Laeq 15min	66.8	75	TSE Works Compliant.
MDS_02, 328 Edgeware Road	03/10/2018	Attended	Y	Laeq 15min	50.1	43	TSE Works Compliant. Traffic Dominant Noise Source
VC_07, 77 Berry Street, North Sydney	03/10/2018	Attended	Y	Laeq 15min	61.4	68	TSE Works Compliant.
VC_07, 199 Miller Street, North Sydney	03/10/2018	Attended	Y	Laeq 15min	68.5	60	TSE Works Compliant. Traffic Dominant Noise Source
PS_02, 260 Pitt Street North	03/10/2018	Attended	Y	Laeq 15min	82.5	80	TSE Works Compliant. Traffic Dominant Noise Source
PS_03, 260 Pitt Street North	03/10/2018	Attended	Y	Laeq 15min	81	80	TSE Works Compliant. Traffic Dominant Noise Source
BN_03, 2 High Street, Millers Point	03/10/2018	Attended	Y	Laeq 15min	56.3	80	TSE Works Compliant

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
VC_07, 77 Berry Street, North Sydney	04/10/2018	Attended	Y	Laeq 15min	62.3	57	TSE Works Compliant. Traffic Dominant Noise Source
VC_07, 199 Miller Street, North Sydney	04/10/2018	Attended	Y	Laeq 15min	60.8	60	TSE Works Compliant. Traffic Dominant Noise Source
BN_03, 2 High Street, Millers Point	04/10/2018	Attended	Y	Laeq 15min	52.3	80	TSE Works Compliant
VC_07, 199 Miller Street, North Sydney	04/10/2018	Attended	Y	Laeq 15min	68.5	60	TSE Works Compliant. Traffic Dominant Noise Source
VC_01, 100 Miller Street, North Sydney	04/10/2018	Attended	Y	Laeq 15min	66.8	70	TSE Works Compliant.
PS_03, 169 Castlereagh Street, Sydney.	05/10/2018	Attended	Y	Laeq 15min	70.7	89	TSE Works Compliant.
PS_03, 488 George Street, Sydney	05/10/2018	Attended	Y	Laeq 15min	66.4	64	TSE Works Compliant. Traffic Dominant Noise Source
VC_07, 199 Miller Street, North Sydney	05/10/2018	Attended	Y	Laeq 15min	68.6	76	TSE Works Compliant.
VC_02, 15 Angelo Street, North Sydney	05/10/2018	Attended	Y	Laeq 15min	71.4	75	TSE Works Compliant.
VC_01, 100 Miller Street, North Sydney	05/10/2018	Attended	Y	Laeq 15min	69.6	87	TSE Works Compliant.
CDS_06, 344 Mowbray Road, Chatswood	15/10/2018	Attended	Y	Laeq 15min	67.3	52	TSE Works Compliant. Traffic Dominant Noise Source
CDS_03, 17 Nelson Street, Chatswood	15/10/2018	Attended	Y	Laeq 15min	56.1	52	TSE Works Compliant. Traffic Dominant Noise Source
CDS_06, 344 Mowbray Road, Chatswood	15/10/2018	Attended	Y	Laeq 15min	64.1	52	TSE Works Compliant. Traffic Dominant Noise Source
MDS_02, 328 Edgeware Rd, Marrickville	15/10/2018	Attended	Y	Laeq 15min	63.8	65	TSE Works Compliant.

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
MDS_04, 4 Unwins Bridge Road, St. Peters	15/10/2018	Attended	Y	Laeq 15min	62.3	40	TSE Works Compliant. Traffic Dominant Noise Source
MDS_04, 4 Unwins Bridge Road, St. Peters	15/10/2018	Attended	Y	Laeq 15min	60.7	65	TSE Works Compliant.
MDS_02, 328 Edgeware Rd, Marrickville	15/10/2018	Attended	Y	Laeq 15min	56.6	65	TSE Works Compliant.
PS_01, 339 Pitt ST, Sydney	15/10/2018	Attended	Y	Laeq 15min	68.5	75	TSE Works Compliant.
MDS_04, 4 Unwins Bridge Road, St. Peters	16/10/2018	Attended	Y	Laeq 15min	67.8	40	TSE Works Compliant. Traffic Dominant Noise Source
MDS_02, 328 Edgeware Rd, Marrickville	16/10/2018	Attended	Y	Laeq 15min	69.2	65	TSE Works Compliant. Traffic Dominant Noise Source
WS_01, 125 Raglan St, Waterloo	16/10/2018	Attended	Y	Laeq 15min	64.6	60	TSE Works Compliant. Traffic Dominant Noise Source
WS_02, 219 Cope St, Waterloo	16/10/2018	Attended	Y	Laeq 15min	53.6	60	TSE Works Compliant. Traffic Dominant Noise Source
WS_04, 62-72 Botany Rd, Alexandria	16/10/2018	Attended	Y	Laeq 15min	68.2	60	TSE Works Compliant. Traffic Dominant Noise Source
MDS_02, 328 Edgeware Rd, Marrickville	16/10/2018	Attended	Y	Laeq 15min	65.2	65	TSE Works Compliant. Traffic Dominant Noise Source
WS_02, 62-72 Botany Rd, Alexandria	16/10/2018	Attended	Y	Laeq 15min	71.2	80	TSE Works Compliant.
MP_01, 27-39 Castlereagh Street, Sydney	16/10/2018	Attended	Y	Laeq 15min	68.9	73	TSE Works Compliant. Traffic/pedestrians dominant noise source
MP_04, 52 Martin Place, Sydney	16/10/2018	Attended	Y	Laeq 15min	76.2	70	TSE Works Compliant. Traffic Dominant Noise Source
MP_04, 50 Martin Place, Sydney	16/10/2018	Attended	Y	Laeq 15min	70.8	77	TSE Works Compliant.

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
MP_01, 27-35 Castlereagh St, Sydney	18/10/2018	Attended	Y	Laeq 15min	69.5	60	TSE Works Compliant. Traffic/pedestrians dominant noise source
CDS_03, 2 Nelson Street, Chatswood	18/10/2018	Attended	Y	Laeq 15min	60.1	52	TSE Works Compliant. Traffic Dominant Noise Source
CDS_06, 342 Mowbray Road, Chatswood	18/10/2018	Attended	Y	Laeq 15min	68.8	52	TSE Works Compliant. Traffic Dominant Noise Source
MDS_02, 328 Edgeware Rd, Marrickville	18/10/2018	Attended	Y	Laeq 15min	63.6	65	TSE Works Compliant.
MDS_02, 328 Edgeware Rd, Marrickville	18/10/2018	Attended	Y	Laeq 15min	62.3	65	TSE Works Compliant.
MP_01, 27-35 Castlereagh St, Sydney	18/10/2018	Attended	Y	Laeq 15min	66.1	60	TSE Works Compliant. Traffic/pedestrians dominant noise source
CDS_06, 344 Mowbray Road, Chatswood	19/10/2018	Attended	Y	Laeq 15min	69.6	52	TSE Works Compliant. Traffic Dominant Noise Source
CDS_02, 524 Pacific Highway, Chatswood	21/10/2018	Attended	Y	Laeq 15min	74.3	60	TSE Works Compliant. Traffic Dominant Noise Source
CDS_03, 19 Nelson Street, Chatswood	21/10/2018	Attended	Y	Laeq 15min	60.9	55	TSE Works Compliant. Traffic Dominant Noise Source
CDS_06, 344 Mowbray Road, Chatswood	21/10/2018	Attended	Y	Laeq 15min	71.9	55	TSE Works Compliant. Traffic Dominant Noise Source
MP_02, 17 Castlereagh Street, Sydney	22/10/2018	Attended	Y	Laeq 15min	72.6	61	TSE Works Compliant. Traffic Dominant Noise Source
MP_01, 27-39 Castlereagh Street, Sydney	22/10/2018	Attended	Y	Laeq 15min	61.8	61	TSE Works Compliant. Traffic Dominant Noise Source
VC_07, 77 Berry Street, North Sydney	22/10/2018	Attended	Y	Laeq 15min	54.5	65	TSE Works Compliant

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
VC_07, 199 Miller Street, North Sydney	22/10/2018	Attended	Y	Laeq 15min	63.7	65	TSE Works Compliant
VC_07, 17 Castlereagh Street, Sydney	23/10/2018	Attended	Y	Laeq 15min	59	58	TSE Works Compliant. Traffic Dominant Noise Source
VC_07, 77 Berry Street, North Sydney	23/10/2018	Attended	Y	Laeq 15min	50.9	65	TSE Works Compliant
VC_07, 77 Berry Street, North Sydney	23/10/2018	Attended	Y	Laeq 15min	55.9	65	TSE Works Compliant
VC_07, 77 Berry Street, North Sydney	23/10/2018	Attended	Y	Laeq 15min	69.5	65	TSE Works Compliant. Traffic Dominant Noise Source
MP_02, 17 Castlereagh Street, Sydney	23/10/2018	Attended	Y	Laeq 15min	68.3	70	Works inaudible. Traffic was the major noise source.
VC_07, 77 Berry Street, North Sydney	23/10/2018	Attended	Y	Laeq 15min	54.6	57	TSE Works Compliant
MP_02, 17 Castlereagh Street, Sydney	24/10/2018	Attended	Y	Laeq 15min	66.9	71	TSE Works Compliant
MP_03, 61-101 Phillip Street, Sydney	24/10/2018	Attended	Y	Laeq 15min	70.8	66	TSE Works Compliant. Traffic Dominant Noise Source
MP_02, 17 Castlereagh Street, Sydney	25/10/2018	Attended	Y	Laeq 15min	68.1	70	TSE Works Compliant
VC_07, 77 Berry Street, North Sydney	25/10/2018	Attended	Y	Laeq 15min	54.7	58	TSE Works Compliant
MP_02, 17 Castlereagh Street, Sydney	25/10/2018	Attended	Y	Laeq 15min	68.6	70	TSE Works Compliant
MP_02, 17 Castlereagh Street, Sydney	25/10/2018	Attended	Y	Laeq 15min	66.8	70	TSE Works Compliant
VC_07, 77 Berry Street, North Sydney	25/10/2018	Attended	Y	Laeq 15min	57	58	TSE Works Compliant

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
VC_07, 199 Miller Street, North Sydney	25/10/2018	Attended	Y	Laeq 15min	66.3	64	TSE Works Compliant. Traffic Dominant Noise Source
PS_02, 27 Park Street, Pitt Street (North)	26/10/2018	Attended	Y	Laeq 15min	71.8	66	TSE Works Compliant. Traffic Dominant Noise Source
PS_02, 27 Park Street, Pitt Street (North)	27/10/2018	Attended	Y	Laeq 15min	71.2	66	TSE Works Compliant. Traffic Dominant Noise Source
BN_03, 30 High Street, Barangaroo	27/10/2018	Attended	Y	Laeq 15min	56.1	55	TSE Works Compliant. Traffic Dominant Noise Source
, 27-39 Castlereagh Street, Sydney	27/10/2018	Attended	Y	Laeq 15min	69.1	71	TSE Works Compliant. Traffic Dominant Noise Source
CDS_02, 2 Nelson Street, Chatswood	27/10/2018	Attended	Y	Laeq 15min	61.4	55	TSE Works Compliant. Traffic Dominant Noise Source
WS_04, 62-72 Botany Rd, Alexandria	27/10/2018	Attended	Y	Laeq 15min	69.3	64	TSE Works Compliant. Traffic Dominant Noise Source
VC_04, 243 Millers Street, Victoria Cross	29/10/2018	Attended	Y	Laeq 15min	59.9	55	TSE Works Compliant. Traffic Dominant Noise Source
VC_04, 237 Miller Street, Victoria Cross	29/10/2018	Attended	Y	Laeq 15min	63.9	62	TSE Works Compliant. Traffic Dominant Noise Source
PS_03, 169 Castlereagh Street, Sydney.	29/10/2018	Attended	Y	Laeq 15min	68.2	75	TSE Works Compliant. Inaudible for majority of the reading
PS_03, 169 Castlereagh Street, Sydney.	29/10/2018	Attended	Y	Laeq 15min	66.7	75	TSE Works Compliant. Inaudible for majority of the reading
WS_04, 62-72 Botany Rd, Alexandria	29/10/2018	Attended	Y	Laeq 15min	71	57	TSE Works Compliant. Traffic dominant noise source
WS_04, 62-72 Botany Rd, Alexandria	29/10/2018	Attended	Y	Laeq 15min	71.9	57	TSE Works Compliant. Traffic dominant noise source
CDS_03, 15 Nelson Street, Chatswood	29/10/2018	Attended	Y	Laeq 15min	45.9	44	TSE works compliant. Rail corridor 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_03, 2 Nelson Street, Chatswood	29/10/2018	Attended	Y	Laeq 15min	45.5	44	TSE works compliant. Rail corridor dominant noise source
PS_02, 327 Pitt St	29/10/2018	Attended	Y	Laeq 15min	68.1	75	TSE Works Compliant. Traffic dominant noise source
PS_02, 327 Pitt St	29/10/2018	Attended	Y	Laeq 15min	70.6	75	TSE Works Compliant. Traffic dominant noise source
BN_02, 30 High Street, Barangaroo	29/10/2018	Attended	Y	Laeq 15min	54.1	55	TSE works compliant.
BN_02, 30 High Street, Barangaroo	29/10/2018	Attended	Y	Laeq 15min	53	55	TSE works compliant.
PS_02, 169 Castlereagh Street, Sydney.	30/10/2018	Attended	Y	Laeq 15min	70.1	75	TSE Works Compliant. Traffic dominant noise source
VC_04, 243 Millers Street, Victoria Cross	30/10/2018	Attended	Y	Laeq 15min	56.7	55	TSE Works Compliant. Traffic dominant noise source
VC_04, 237 Miller Street, Victoria Cross	30/10/2018	Attended	Y	Laeq 15min	58.6	49	TSE Works Compliant. Traffic dominant noise source
CDS_06, 342 Mowbray Road, Chatswood	30/10/2018	Attended	Y	Laeq 15min	69.6	52	TSE Works Compliant. Traffic Dominant Noise Source
CDS_02, 525 Pacific Highway, Chatswood	30/10/2018	Attended	Y	Laeq 15min	70.9	59	TSE Works Compliant. Traffic Dominant Noise Source
CDS_03, 2 Nelson Street, Chatswood	30/10/2018	Attended	Y	Laeq 15min	59	52	TSE Works Compliant. Traffic Dominant Noise Source
CDS_03, 9-11 Nelson Street, Chatswood	31/10/2018	Attended	Y	Laeq 15min	50.4	44	TSE Works Compliant. Traffic/Non-TSE Works Dominant Noise
CDS_06, 342 Mowbray Road, Chatswood	31/10/2018	Attended	Y	Laeq 15min	61.6	44	TSE Works Compliant. Traffic/Non-TSE Works Dominant Noise
CDS_02, 525 Pacific Highway, Chatswood	31/10/2018	Attended	Y	Laeq 15min	69.2	47	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 Road, Chatswood	31/10/2018	Attended	Y	Laeq 15min	60.9	52	TSE Works Compliant. Traffic Dominant Noise Source
CDS_02, 525 Pacific Highway, Chatswood	31/10/2018	Attended	Y	Laeq 15min	71.2	59	TSE Works Compliant. Traffic Dominant Noise Source
CDS_03, 9-11 Nelson Street, Chatswood	31/10/2018	Attended	Y	Laeq 15min	54.8	52	TSE Works Compliant. Traffic Dominant Noise Source
CDS_03, 2 Nelson Street, Chatswood	10/10/2018	Attended	Y	Laeq 15min	61	52	TSE Works Compliant. Traffic Dominant Noise Source
CDS_03, 9-11 Nelson Street, Chatswood	31/10/2018	Attended	Y	Laeq 15min	57.5	44	TSE Works Compliant. Traffic Dominant Noise Source
CDS_06, 342 Mowbray Road, Chatswood	31/10/2018	Attended	Y	Laeq 15min	58.2	44	TSE Works Compliant. Traffic Dominant Noise Source
CDS_02, 525 Pacific Highway, Chatswood	31/10/2018	Attended	Y	Laeq 15min	67.4	47	TSE Works Compliant. Traffic Dominant Noise Source

Table 4-1 Summary of Real Time Noise Analysis

Date	Location & Noise Goal																	
	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 St	
	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower
01/10/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
02/10/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
03/10/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
04/10/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
05/10/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
06/10/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
07/10/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
08/10/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
09/10/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10/10/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11/10/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12/10/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
13/10/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
14/10/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
15/10/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
16/10/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Date	Location & Noise Goal																	
	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 St	
	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower
17/10/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
18/10/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
19/10/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
20/10/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
21/10/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
22/10/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
23/10/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
24/10/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
25/10/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
26/10/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
27/10/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
28/10/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
29/10/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
30/10/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
31/10/2018	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

<b>Report for Condition E1.1 on 01/10/2018</b>				
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
243 Miller St	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Roof Top)	Upper	26	0	Yes
	Lower	39	0	Yes
<b>Report for Condition E1.1 on 02/10/2018</b>				
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	6	Yes
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	2	Yes
Edinburgh Castle Hotel	Upper	26	0	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
243 Miller St	Upper	26	0	Yes

	Lower	39	0	Yes
60 Castlereagh St (Roof Top)	Upper	26	0	Yes
	Lower	39	0	Yes

## Report for Condition E1.1 on 03/10/2018

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	10	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	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
243 Miller St	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Roof Top)	Upper	26	0	Yes
	Lower	39	0	Yes

## Report for Condition E1.1 on 04/10/2018

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	11	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	16	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	1	Yes
60 Castlereagh St (Roof Top)	Upper	26	0	Yes
	Lower	39	0	Yes

## Report for Condition E1.1 on 05/10/2018

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	2	Yes
	Lower	39	25	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	4	Yes
60 Castlereagh St (Roof Top)	Upper	26	0	Yes
	Lower	39	0	Yes

## Report for Condition E1.1 on 06/10/2018

Location	Noise Goal	15 minute periods in exceedance		Has condition been met?
		Permitted	Exceeded	
545 Pacific Highway	Upper	26	0	Yes
	Lower	39	1	Yes
10 to 12 Clarke Street	Upper	26	0	Yes
	Lower	39	2	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	3	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	3	Yes
60 Castlereagh St (Roof Top)	Upper	26	0	Yes
	Lower	39	0	Yes

## Report for Condition E1.1 on 07/10/2018

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	1	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
243 Miller St	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Roof Top)	Upper	26	0	Yes
	Lower	39	0	Yes

## Report for Condition E1.1 on 08/10/2018

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	8	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	9	Yes
50 Martin Place	Upper	26	0	Yes
	Lower	39	0	Yes

25A Hickson Road	Upper	26	0	Yes
	Lower	39	4	Yes
243 Miller St	Upper	26	0	Yes
	Lower	39	16	Yes
60 Castlereagh St (Roof Top)	Upper	26	0	Yes
	Lower	39	0	Yes

## Report for Condition E1.1 on 09/10/2018

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	6	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	17	Yes
50 Martin Place	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	1	Yes
243 Miller St	Upper	26	0	Yes
	Lower	39	1	Yes
60 Castlereagh St (Roof Top)	Upper	26	0	Yes
	Lower	39	0	Yes

## Report for Condition E1.1 on 10/10/2018

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	11	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	20	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	12	Yes
60 Castlereagh St (Roof Top)	Upper	26	0	Yes
	Lower	39	0	Yes

## Report for Condition E1.1 on 11/10/2018

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	9	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	2	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
243 Miller St	Upper	26	0	Yes
	Lower	39	11	Yes
60 Castlereagh St (Roof Top)	Upper	26	0	Yes
	Lower	39	0	Yes

## Report for Condition E1.1 on 12/10/2018

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	1	Yes
Edinburgh Castle Hotel	Upper	26	5	Yes
	Lower	39	30	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	16	Yes
	Lower	39	26	Yes
60 Castlereagh St (Roof Top)	Upper	26	0	Yes
	Lower	39	0	Yes

## Report for Condition E1.1 on 13/10/2018

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	8	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	33	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	4	Yes
60 Castlereagh St (Roof Top)	Upper	26	0	Yes
	Lower	39	0	Yes

## Report for Condition E1.1 on 14/10/2018

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	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 (Roof Top)	Upper	26	0	Yes
	Lower	39	0	Yes

## Report for Condition E1.1 on 15/10/2018

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	5	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	37	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	3	Yes
60 Castlereagh St (Roof Top)	Upper	26	0	Yes
	Lower	39	0	Yes

## Report for Condition E1.1 on 16/10/2018

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	3	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	5	Yes
50 Martin Place	Upper	26	3	Yes
	Lower	39	14	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
243 Miller St	Upper	26	0	Yes
	Lower	39	9	Yes
60 Castlereagh St (Roof Top)	Upper	26	0	Yes
	Lower	39	0	Yes

## Report for Condition E1.1 on 17/10/2018

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	20	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	7	Yes
50 Martin Place	Upper	26	0	Yes
	Lower	39	4	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
243 Miller St	Upper	26	1	Yes
	Lower	39	12	Yes
60 Castlereagh St (Roof Top)	Upper	26	0	Yes
	Lower	39	0	Yes

## Report for Condition E1.1 on 18/10/2018

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	6	Yes
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes

	Lower	39	4	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	7	Yes
50 Martin Place	Upper	26	0	Yes
	Lower	39	3	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
243 Miller St	Upper	26	1	Yes
	Lower	39	19	Yes
60 Castlereagh St (Roof Top)	Upper	26	0	Yes
	Lower	39	0	Yes

## Report for Condition E1.1 on 19/10/2018

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	23	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	25	Yes
50 Martin Place	Upper	26	0	Yes
	Lower	39	2	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
243 Miller St	Upper	26	0	Yes
	Lower	39	5	Yes
60 Castlereagh St (Roof Top)	Upper	26	0	Yes
	Lower	39	0	Yes

## Report for Condition E1.1 on 20/10/2018

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	5	Yes
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes

Castlereagh Boutique Hotel	Upper	26	1	Yes
	Lower	39	2	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	3	Yes
50 Martin Place	Upper	26	0	Yes
	Lower	39	4	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	1	Yes
243 Miller St	Upper	26	0	Yes
	Lower	39	6	Yes
60 Castlereagh St (Roof Top)	Upper	26	0	Yes
	Lower	39	2	Yes

## Report for Condition E1.1 on 21/10/2018

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
243 Miller St	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Roof Top)	Upper	26	0	Yes
	Lower	39	0	Yes

## Report for Condition E1.1 on 22/10/2018

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	6	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	0	Yes
	Lower	39	5	Yes
50 Martin Place	Upper	26	0	Yes
	Lower	39	10	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
243 Miller St	Upper	26	0	Yes
	Lower	39	8	Yes
60 Castlereagh St (Roof Top)	Upper	26	0	Yes
	Lower	39	0	Yes

## Report for Condition E1.1 on 23/10/2018

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	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	0	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
243 Miller St	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Roof Top)	Upper	26	0	Yes
	Lower	39	0	Yes

## Report for Condition E1.1 on 24/10/2018

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	23	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	12	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 (Roof Top)	Upper	26	0	Yes
	Lower	39	0	Yes

## Report for Condition E1.1 on 25/10/2018

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	13	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	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
243 Miller St	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Roof Top)	Upper	26	0	Yes
	Lower	39	0	Yes

## Report for Condition E1.1 on 26/10/2018

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	11	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	19	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	4	Yes
60 Castlereagh St (Roof Top)	Upper	26	0	Yes
	Lower	39	0	Yes

## Report for Condition E1.1 on 27/10/2018

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	4	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	3	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	13	Yes
60 Castlereagh St (Roof Top)	Upper	26	0	Yes
	Lower	39	0	Yes

## Report for Condition E1.1 on 28/10/2018

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
243 Miller St	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Roof Top)	Upper	26	0	Yes
	Lower	39	0	Yes

## Report for Condition E1.1 on 29/10/2018

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	6	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	0	Yes
	Lower	39	9	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	3	Yes
60 Castlereagh St (Roof Top)	Upper	26	0	Yes
	Lower	39	0	Yes

## Report for Condition E1.1 on 30/10/2018

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	1	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	8	Yes
50 Martin Place	Upper	26	0	Yes
	Lower	39	26	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
243 Miller St	Upper	26	0	Yes
	Lower	39	14	Yes
60 Castlereagh St (Roof Top)	Upper	26	0	Yes
	Lower	39	0	Yes

## Report for Condition E1.1 on 31/10/2018

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	17	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
243 Miller St	Upper	26	0	Yes
	Lower	39	2	Yes
60 Castlereagh St (Roof Top)	Upper	26	0	Yes
	Lower	39	0	Yes

### Real Time Noise Analysis Results Comments:

All real-time noise monitoring results were compliant with condition E1.1.

Table 5: Real-Time Vibration Monitoring Data

Day	22 Clarke Street, Crows Nest	10 to 12 Clarke Street, Crows Nest	65 Berry Street, North Sydney	243 Miller Street, North Sydney	25A Hickson Road, Millers Point	50 Martin Place, Sydney	60 Castlereagh Street, Sydney	Castlereagh Boutique Hotel	211-217 Castlereagh Street, Sydney
01/10/2018	0.49	0.14	0.13	0.91	0.13	0.28	0.15	1	0.09
02/10/2018	0.62	0.41	0.45	2.4	0.11	0.22	0.26	1.54	0.09
03/10/2018	0.54	0.28	0.45	2.46	0.11	0.27	0.44	1.27	0.71
04/10/2018	0.46	0.2	0.74	2.98	0.23	0.32	0.77	55.36	0.47
05/10/2018	0.51	0.31	0.59	2.34	0.24	0.27	0.85	2.76	0.17
06/10/2018	0.35	0.18	0.21	1.67	0.1	0.69	0.85	2.72	0.64
07/10/2018	0.3	0.22	0.13	0.99	0.08	0.22	0.18	5.33	0.06
08/10/2018	0.51	0.33	0.56	2.82	0.13	3.64	1.11	2.05	0.9
09/10/2018	1.08	0.23	0.39	2.34	0.08	1.05	0.44	2.19	1.51
10/10/2018	0.84	3.92	0.48	1.26	0.2	0.32	0.41	3.17	1.41
11/10/2018	0.67	0.3	0.4	2.34	0.11	0.44	0.49	1.79	0.92
12/10/2018	0.7	0.36	0.24	1.79	0.16	0.56	0.69	2.06	0.79
13/10/2018	0.72	0.22	0.31	2.01	0.08	1.62	0.57	1.03	0.38
14/10/2018	0.43	0.22	0.41	58.47	0.11	0.24	0.21	1.43	0.07
15/10/2018	0.89	0.38	0.6	1.56	0.08	0.27	0.85	3.49	0.75
16/10/2018	0.81	0.49	0.35	1.42	0.85	0.28	1.13	5.1	1.1
17/10/2018	1.54	0.36	1.58	1.07	0.11	0.27	1.26	3.29	1.09
18/10/2018	1.35	0.33	0.36	1.26	0.16	0.22	1.04	5.55	1.51
19/10/2018	0.49	0.52	0.6	3.01	0.08	0.34	1.03	4.76	2.2
20/10/2018	0.43	0.28	0.19	2.53	0.25	0.29	2.06	2.08	1.39
21/10/2018	0.35	0.3	1.46	1.68	0.13	0.24	0.18	1.76	0.07
22/10/2018	0.41	0.54	0.43	2.58	0.11	0.25	0.9	1.49	2.37
23/10/2018	1.14	0.33	0.44	1.74	0.18	0.22	4.68	1.94	0.84
24/10/2018	0.35	0.26	0.93	3.3	0.11	0.27	0.82	3.69	7.5
25/10/2018	0.84	0.24	0.64	0.94	0.11	0.32	0.82	1.25	1.49
26/10/2018	0.76	0.38	0.6	0.73	0.2	0.37	1.36	1.52	1.39
27/10/2018	0.47	0.38	0.93	10.42	0.1	0.26	0.75	2.26	1.29
28/10/2018	0.3	0.24	0.4	1.08	0.11	0.22	0.18	2.04	0.06
29/10/2018	0.65	0.43	1.4	2.4	0.11	0.48	2.16	1.78	0.98
30/10/2018	0.51	0.38	0.57	1.95	0.11	0.4	1.23	3.33	0.82
31/10/2018	0.81	0.23	0.55	1.16	0.11	0.29	1	1.98	1.12
<b>Criteria (mm/S)</b>	<b>25</b>	<b>25</b>	<b>25</b>	<b>7.5</b>	<b>25</b>	<b>7.5</b>	<b>25</b>	<b>7.5</b>	<b>7.5</b>

## Real-Time Vibration Results Comments:

### Castlereagh Boutique Hotel

The real-time vibration monitor installed within the Castlereagh Boutique Hotel logged vibration figures of 25.96mm/s (10:58am, peak vertical), and 55.36mm/s (10:59am, peak vertical), on 4 October 2018. The designated maximum allowable vibration figure for this site for cosmetic damage (7.5mm/s, on any axis).

An investigation was carried out by the senior environmental coordinator, and it was found that this exceedance was attributed to an Acoustic Consultant team member changing over the Geophone during a regular service of the vibration monitor.

### 243 Miller Street, North Sydney

An alarm was received for a vibration exceedance that occurred between 2018-10-14 14:10:00 (AEDT) and 2018-10-14 14:11:00 (AEDT). The maximum level recorded was 58.5mm/s. This exceedance took place on a Sunday when no works were being undertaken. Investigation determined that property owner had come in close contact with the monitor and exceedance was not related to TSE works.

On Saturday 27 October, a trial blast (Site Law Assessment) was undertaken at the Victoria Cross North shaft excavation, as per the Blast Management Strategy. The purpose of the Site Law Assessment (SLA) was to understand the vibration transmission characteristics of the ground to be blasted (determining the site-specific relationship between explosive charge weight, distance to receivers and magnitude of vibration), and it involves firing a number of small explosive charges and monitoring the resultant vibration levels at key monitoring locations around the site.