



Environmental Monitoring Data

Project:	Sydney Metro City & Southwest– TSE Works
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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 September 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)	
1	MD-01	01/09/2018	Y	7.5	6.8	Nil	Water Treatment Plant
2	CD_02	01/09/2018	Y	7.5	1.1	Nil	Water Treatment Plant
1	WL_01	03/09/2018	Y	7.07	4.78	Nil	Water Treatment Plant
1	MD-01	03/09/2018	Y	7.5	4.9	Nil	Water Treatment Plant
2	BN_02	03/09/2018	Y	7.6	0.5	Nil	Water Treatment Plant
2	CD_02	03/09/2018	Y	7.6	2.2	Nil	Water Treatment Plant
1	WL_01	04/09/2018	Y	6.69	5.63	Nil	Water Treatment Plant
1	MD-01	04/09/2018	Y	7.5	3.9	Nil	Water Treatment Plant
2	CD_02	04/09/2018	Y	7.3	0.3	Nil	Water Treatment Plant
1	MD-01	05/09/2018	Y	7.6	20.3	Nil	Water Treatment Plant
2	CD_02	05/09/2018	Y	7.4	3.2	Nil	Water Treatment Plant
2	BL_02	06/09/2018	Y	8.3	18.1	Nil	Water Treatment Plant
1	WL_01	06/09/2018	Y	7	6.4	Nil	Water Treatment Plant
2	CD_02	06/09/2018	Y	7.5	0.4	Nil	Water Treatment Plant
1	MD-01	06/09/2018	Y	7.6	16.7	Nil	Water Treatment Plant
2	BN_02	07/09/2018	Y	7.6	3.4	Nil	Water Treatment Plant
2	CD_02	07/09/2018	Y	7.3	0.4	Nil	Water Treatment Plant
1	MD-01	07/09/2018	Y	7.6	0.4	Nil	Water Treatment Plant
2	BN_02	08/09/2018	Y	7.2	1	Nil	Water Treatment Plant
2	CD_02	08/09/2018	Y	7.5	6.2	Nil	Water Treatment Plant
1	MD-01	08/09/2018	Y	7.4	7.8	Nil	Water Treatment Plant
1	MD-01	09/09/2018	Y	7.7	0.7	Nil	Water Treatment Plant
2	CD_02	10/09/2018	Y	7.5	2.4	Nil	Water Treatment Plant

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)	
1	MD-01	10/09/2018	Y	7.4	0.2	Nil	Water Treatment Plant
2	CD_02	11/09/2018	Y	7.6	17.3	Nil	Water Treatment Plant
1	MD-01	11/09/2018	Y	7.4	0.2	Nil	Water Treatment Plant
2	CD_02	12/09/2018	Y	8.2	7.3	Nil	Water Treatment Plant
1	MD-01	12/09/2018	Y	7.4	0.2	Nil	Water Treatment Plant
2	CD_02	13/09/2018	Y	7.5	8.8	Nil	Water Treatment Plant
1	MD-01	13/09/2018	Y	7.6	0.3	Nil	Water Treatment Plant
2	CD_02	14/09/2018	Y	7.4	4.9	Nil	Water Treatment Plant
1	MD-01	14/09/2018	Y	7.4	0.2	Nil	Water Treatment Plant
2	BL_02	14/09/2018	Y	7.4	5.9	Nil	Water Treatment Plant
2	CD_02	15/09/2018	Y	7.5	3.7	Nil	Water Treatment Plant
1	MD-01	15/09/2018	Y	7.4	0.3	Nil	Water Treatment Plant
2	BN_02	17/09/2018	Y	7.4	5.2	Nil	Water Treatment Plant
2	CD_02	17/09/2018	Y	7.6	2.4	Nil	Water Treatment Plant
1	MD-01	17/09/2018	Y	7.6	0.2	Nil	Water Treatment Plant
2	CD_02	18/09/2018	Y	7.8	0.9	Nil	Water Treatment Plant
1	MD-01	18/09/2018	Y	7.5	0.6	Nil	Water Treatment Plant
2	CD_02	19/09/2018	Y	7.6	5.7	Nil	Water Treatment Plant
1	MD-01	19/09/2018	Y	7.7	0.4	Nil	Water Treatment Plant
2	CD_02	20/09/2018	Y	7.7	0.8	Nil	Water Treatment Plant
1	MD-01	20/09/2018	Y	7.7	14.3	Nil	Water Treatment Plant
3	PS_03	21/09/2018	Y	7.4	1.9	Nil	Water Treatment Plant
2	CD_02	21/09/2018	Y	7.6	1.1	Nil	Water Treatment Plant

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)	
1	MD-01	21/09/2018	Y	7.7	0.1	Nil	Water Treatment Plant
2	CD_02	22/09/2018	Y	7.4	1.4	Nil	Water Treatment Plant
1	MD-01	22/09/2018	Y	7.4	0.3	Nil	Water Treatment Plant
1	MD-01	23/09/2018	Y	7.7	0.2	Nil	Water Treatment Plant
1	WL_01	24/09/2018	Y	6.81	7.3	Nil	Water Treatment Plant
2	CD_02	24/09/2018	Y	7.5	2.1	Nil	Water Treatment Plant
1	MD-01	24/09/2018	Y	7.5	0.2	Nil	Water Treatment Plant
3	PS_03	25/09/2018	Y	7.4	3.8	Nil	Water Treatment Plant
2	CD_02	25/09/2018	Y	7.6	0.6	Nil	Water Treatment Plant
1	MD-01	25/09/2018	Y	7.6	0.3	Nil	Water Treatment Plant
2	CD_02	26/09/2018	Y	7.7	0.6	Nil	Water Treatment Plant
1	MD-01	26/09/2018	Y	7.6	0.4	Nil	Water Treatment Plant
2	CD_02	27/09/2018	Y	7.6	1.6	Nil	Water Treatment Plant
1	MD-01	27/09/2018	Y	7.4	3.0	Nil	Water Treatment Plant
2	BN_02	28/09/2018	Y	7.6	11.5	Nil	Water Treatment Plant
2	CD_02	28/09/2018	Y	7.6	1.9	Nil	Water Treatment Plant
1	MD-01	28/09/2018	Y	7.2	0.3	Nil	Water Treatment Plant
2	CD_02	29/09/2018	Y	7.6	2.1	Nil	Water Treatment Plant

¹ 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, Martin Place Shopping Circle	14/09/2018	Attended	Validation	0.62	7.50	2T Excavator hammering/scrapping in shopping circle void
MP_04, 50 Martin Place (internal plant room)	28/09/2018	Attended	Event	0.11	7.50	TSE Works Compliant. Grease Trap Demolition, 2T excavator

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
CN_04, 420 Pacific Highway, Crows Nest	01/09/2018	Attended	Y	LAeq 15 Min	75.8	89	TSE Works Compliant.
CN_01, 14 Clarke Street, Crows Nest	01/09/2018	Attended	Y	LAeq 15 Min	75.0	80	TSE Works Compliant.
CN_04, 420 Pacific Highway, Crows Nest	01/09/2018	Attended	Y	LAeq 15 Min	75.7	80	TSE Works Compliant.
VC_07, 199 Miller Street, North Sydney	03/09/2018	Attended	Y	LAeq 15 Min	65.9	60	TSE Works Compliant. Traffic dominant noise source.
VC_07, 77 Berry Street, North Sydney	03/09/2018	Attended	Y	LAeq 15 Min	55.7	63	TSE Works Compliant.
MP_01, 165 Phillip Street (Footpath of Elizabeth)	03/09/2018	Attended	Y	LAeq 15 Min	72.7	70	TSE Works Compliant. Traffic dominant noise source.
MP_01, 27-39 Castlereagh Street, Sydney	03/09/2018	Attended	Y	LAeq 15 Min	65.4	71	TSE Works Compliant.
VC_07, 77 Berry Street, North Sydney	04/09/2018	Attended	Y	LAeq 15 Min	54.2	57	TSE Works Compliant.
MP_01, 165 Phillip Street, Sydney	04/09/2018	Attended	Y	LAeq 15 Min	70.0	60	TSE Works Compliant. Traffic dominant noise source.
MDS_02, 330 Edgeware Road, Newtown	04/09/2018	Attended	Y	LAeq 15 Min	62.1	68	TSE Works Compliant.
MDS_04, 4 Unwins Bridge Road, St. Peters	04/09/2018	Attended	Y	LAeq 15 Min	69.6	52	TSE Works Compliant. Traffic dominant noise source.
MDS_02, 330 Edgeware Road, Newtown	04/09/2018	Attended	Y	LAeq 15 Min	60.9	50	TSE Works Compliant. Traffic dominant noise source.
MP_03, 61-101 Phillip Street, Sydney	04/09/2018	Attended	Y	LAeq 15 Min	68.1	60	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
MP_03, 61-101 Phillip Street	05/09/2018	Attended	Y	LAeq 15 Min	67.9	60	TSE Works Compliant. Traffic dominant noise source.
MDS_02, 330 Edgeware Road, Newtown	05/09/2018	Attended	Y	LAeq 15 Min	47.4	43	TSE Works Compliant. Traffic dominant noise source.
VC_01, 100 Miller Street, North Sydney	05/09/2018	Attended	Y	LAeq 15 Min	66.3	70	TSE Works Compliant.
MDS_02, 330 Edgeware Road, Newtown	05/09/2018	Attended	Y	LAeq 15 Min	66.3	90	TSE Works Compliant.
BN_02, 30 High Street, Millers Point	05/09/2018	Attended	Y	LAeq 15 Min	52.7	63	TSE Works Compliant.
VC_01, 100 Miller Street, North Sydney	06/09/2018	Attended	Y	LAeq 15 Min	60.1	70	TSE Works Compliant.
BN_02, 30 High Street, Millers Point	06/09/2018	Attended	Y	LAeq 15 Min	51.5	51	TSE Works Compliant. Traffic dominant noise source.
MDS_02, 330 Edgeware Road, Newtown	06/09/2018	Attended	Y	LAeq 15 Min	59.0	67	TSE Works Compliant.
MP_01, 165 Phillip Street, Sydney	06/09/2018	Attended	Y	LAeq 15 Min	66.1	60	TSE Works Compliant. Traffic dominant noise source.
MP_01, 165 Phillip Street, Sydney	06/09/2018	Attended	Y	LAeq 15 Min	64.7	60	TSE Works Compliant. Traffic dominant noise source.
AS_01, 19 Barton Road, Artarmon	07/09/2018	Attended	Y	LAeq 15 Min	59.9	59	TSE Works Compliant. Traffic dominant noise source.
AS_02, 113 Reserve Road, Artarmon	07/09/2018	Attended	Y	LAeq 15 Min	76.0	94	TSE Works Compliant
BN_03, 73 Kent Street, Millers Point	10/09/2018	Attended	Y	LAeq 15 Min	52.4	55	TSE Works Compliant (External)
VC_07, 77 Berry Street, North Sydney	10/09/2018	Attended	Y	LAeq 15 Min	65.6	67	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_02, 330 Edgeware Road, Newtown	10/09/2018	Attended	Y	LAeq 15 Min	66.7	72	TSE Works Compliant
MDS_02, 330 Edgeware Road, Newtown	11/09/2018	Attended	Y	LAeq 15 Min	61.5	72	TSE Works Compliant
VC_07, 77 Berry Street, North Sydney	11/09/2018	Attended	Y	LAeq 15 Min	59.7	57	TSE Works Compliant. Traffic dominant noise source
BN_03, 30 High Street, Millers Point	11/09/2018	Attended	Y	LAeq 15 Min	52.3	66	TSE Works Compliant
MDS_02, 330 Edgeware Road, Newtown	11/09/2018	Attended	Y	LAeq 15 Min	64.8	72	TSE Works Compliant
MDS_02, 330 Edgeware Road, Newtown	12/09/2018	Attended	Y	LAeq 15 Min	60.4	72	TSE Works Compliant
PS_02, 27 Park Street, Pitt Street (North)	12/09/2018	Attended	Y	LAeq 15 Min	62.1	57	TSE Works Compliant. Traffic dominant noise source
PS_02, 27 Park Street, Pitt Street (North)	13/09/2018	Attended	Y	LAeq 15 Min	67.1	66	TSE Works Compliant. Traffic dominant noise source
MDS_02, 190 Lord Street, Marrickville	13/09/2018	Attended	Y	LAeq 15 Min	50.0	52	TSE Works Compliant. TSE works inaudible.
VC_07, 100 Miller Street, North Sydney	13/09/2018	Attended	Y	LAeq 15 Min	67.5	67	TSE Works Compliant. Traffic dominant noise source
VC_07, 77 Berry Street, North Sydney	13/09/2018	Attended	Y	LAeq 15 Min	64.3	67	TSE Works Compliant. Traffic dominant noise source
BN_02, 25A Hickson Road, Millers Point	13/09/2018	Attended	Y	LAeq 15 Min	68.4	77	TSE Works Compliant
MDS_04, 108 Unwins Bridge Road, St Peters	13/09/2018	Attended	Y	LAeq 15 Min	64.7	38	TSE Works Compliant. Traffic dominant noise source. Inaudible.

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_01, 65 Edinburgh Road, Marrickville	13/09/2018	Attended	Y	LAeq 15 Min	65.2	42	TSE Works Compliant. Traffic dominant noise source. TSE works inaudible.
MDS_04, 108 Unwins Bridge Road, St Peters	14/09/2018	Attended	Y	LAeq 15 Min	49.3	38	TSE Works Compliant. Traffic dominant noise source. TSE works inaudible.
MDS_01, 65 Edinburgh Road, Marrickville	14/09/2018	Attended	Y	LAeq 15 Min	60.5	42	TSE Works Compliant. Traffic dominant noise source. TSE works inaudible.
MDS_02, 190 Lord Street, Marrickville	14/09/2018	Attended	Y	LAeq 15 Min	47.4	52	TSE Works Compliant. Traffic dominant noise source. Inaudible.
VC_07, 100 Miller Street, North Sydney	14/09/2018	Attended	Y	LAeq 15 Min	68.9	67	TSE Works Compliant. Traffic dominant noise source.
VC_07, 100 Miller Street, North Sydney	14/09/2018	Attended	Y	LAeq 15 Min	67.4	67	TSE Works Compliant. Traffic dominant noise source.
CDS_04, 335 Mowbray Road, Chatswood	16/09/2018	Attended	Y	LAeq 15 Min	62.0	82	TSE Works Compliant
MP_02, 5 Hoskings Place (17 Castlereagh Street)	17/09/2018	Attended	Y	LAeq 15 Min	76.3	70	TSE works compliant. Non-TSE works dominant noise source. Shopping circle works inaudible.
MP_01, 27-39 Castlereagh Street, Sydney	17/09/2018	Attended	Y	LAeq 15 Min	66.3	70	TSE Works Compliant.
CDS_03, 9-11 Nelson Street, Chatswood	17/09/2018	Attended	Y	LAeq 15 Min	58.7	52	TSE Works Compliant. Traffic Dominant Noise Source
CDS_03, 2 Nelson Street, Chatswood	17/09/2018	Attended	Y	LAeq 15 Min	50.8	52	TSE Works Compliant
CDS_06, 344 Mowbray Road, Chatswood	17/09/2018	Attended	Y	LAeq 15 Min	71.7	52	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
CN_04, 420 Pacific Highway, Crows Nest	18/09/2018	Attended	Y	LAeq 15 Min	68.3	72	TSE Works Compliant. Traffic Dominant Noise Source
VC_07, 80 Berry Street, North Sydney	18/09/2018	Attended	Y	LAeq 15 Min	59.2	63	TSE Works Compliant.
CDS_03, 2 Nelson Street, Chatswood	18/09/2018	Attended	Y	LAeq 15 Min	51.8	44	TSE Works Compliant. Traffic Dominant Noise Source
CDS_03, 9-11 Nelson Street, Chatswood	18/09/2018	Attended	Y	LAeq 15 Min	48.9	44	TSE Works Compliant. Traffic Dominant Noise Source
CDS_03, 2 Nelson Street, Chatswood	18/09/2018	Attended	Y	LAeq 15 Min	49.5	44	TSE Works Compliant. Traffic Dominant Noise Source
CDS_06, 344 Mowbray Road, Chatswood	18/09/2018	Attended	Y	LAeq 15 Min	57.1	44	TSE Works Compliant. Traffic Dominant Noise Source
VC_07, 199 Miller Street, North Sydney	19/09/2018	Attended	Y	LAeq 15 Min	65.7	63	TSE Works Compliant. Traffic Dominant Noise Source
VC_07, 80 Berry Street, North Sydney	19/09/2018	Attended	Y	LAeq 15 Min	60.2	63	TSE Works Compliant. Traffic Dominant Noise Source
BN_03, 30 High Street, Barangaroo	19/09/2018	Attended	Y	LAeq 15 Min	55.4	50	TSE works compliant. Non-TSE works dominant noise source.
CDS_06, 340 Mowbray Road, Chatswood	19/09/2018	Attended	Y	LAeq 15 Min	63.9	82	TSE Works compliant.
CDS_04, 335 Mowbray Road, Chatswood	19/09/2018	Attended	Y	LAeq 15 Min	58.7	76	TSE Works Compliant. Traffic Dominant Noise Source
MDS_02, 322 Edgeware Road, Newtown	19/09/2018	Attended	Y	LAeq 15 Min	59.0	65	TSE Works Compliant. Traffic Dominant Noise Source
VC_07, 80 Berry Street, North Sydney	19/09/2018	Attended	Y	LAeq 15 Min	54.2	57	TSE Works Compliant.
VC_07, 199 Miller Street, North Sydney	19/09/2018	Attended	Y	LAeq 15 Min	58.5	57	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_03, 2 Nelson Street, Chatswood	19/09/2018	Attended	Y	LAeq 15 Min	46.9	44	TSE Works Compliant. Traffic Dominant Noise Source
CDS_06, 340 Mowbray Road, Chatswood	20/09/2018	Attended	Y	LAeq 15 Min	59.8	67	TSE Works Compliant. Traffic Dominant Noise Source
MP_02, 5 Hoskings Place (17 Castlereagh Street)	20/09/2018	Attended	Y	LAeq 15 Min	68.3	50	TSE Works Compliant. Traffic Dominant Noise Source
MP_01, 27-39 Castlereagh Street, Sydney	20/09/2018	Attended	Y	LAeq 15 Min	69.3	70	TSE Works Compliant. Traffic Dominant Noise Source
CDS_06, 344 Mowbray Road, Chatswood	20/09/2018	Attended	Y	LAeq 15 Min	73.7	82	TSE Works Compliant.
VC_07, 80 Berry Street, North Sydney	20/09/2018	Attended	Y	LAeq 15 Min	63.4	63	TSE Works Compliant. Traffic Dominant Noise Source
CN_04, 420 Pacific Highway, Crows Nest	21/09/2018	Attended	Y	LAeq 15 Min	72.0	68	TSE Works Compliant. Traffic Dominant Noise Source
VC_07, 199 Miller Street, North Sydney	21/09/2018	Attended	Y	LAeq 15 Min	76.1	75	TSE Works Compliant. Non-TSE noise dominant.
VC_07, 199 Miller Street, North Sydney	21/09/2018	Attended	Y	LAeq 15 Min	69.7	75	TSE Works Compliant. Non-TSE noise dominant.
, 471 Pacific Highway, Crows Nest	21/09/2018	Attended	Y	LAeq 15 Min	77.1	78	TSE Works Compliant. Traffic Dominant Noise Source
PS_02, 189 Castlereagh Street, Sydney	24/09/2018	Attended	Y	LAeq 15 Min	68.3	62	TSE Works Inaudible. Traffic dominant noise source.
CDS_03, 2 Nelson Street, Chatswood	24/09/2018	Attended	Y	LAeq 15 Min	51.0	52	TSE Works Compliant
CDS_03, 2 Nelson Street, Chatswood	25/09/2018	Attended	Y	LAeq 15 Min	46.9	47	TSE Works Compliant
MDS_02, 322 Edgeware Road	25/09/2018	Attended	Y	LAeq 15 Min	50.6	52	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_02, 322 Edgeware Road	25/09/2018	Attended	Y	LAeq 15 Min	67.0	82	TSE Works Compliant
MDS_02, 322 Edgeware Road	25/09/2018	Attended	Y	LAeq 15 Min	66.6	82	TSE Works Compliant
CDS_03, 2 Nelson Street, Chatswood	25/09/2018	Attended	Y	LAeq 15 Min	46.9	52	TSE Works Compliant
CDS_03, 2 Nelson Street, Chatswood	26/09/2018	Attended	Y	LAeq 15 Min	45.1	47	TSE Works Compliant
MDS_02, 322 Edgeware Road	26/09/2018	Attended	Y	LAeq 15 Min	55.5	65	TSE Works Compliant
BP_01, 14 Blues Point Road	26/09/2018	Attended	Y	LAeq 15 Min	52.0	52	TSE Works Compliant.
VC_07, 77 Berry Street, North Sydney	26/09/2018	Attended	Y	LAeq 15 Min	59.4	68	TSE Works Compliant.
BN_02, 25A Hickson Road, Millers Point	26/09/2018	Attended	Y	LAeq 15 Min	63.9	69	TSE Works Compliant
MP_01, 17 Castlereagh Street, Sydney	26/09/2018	Attended	Y	LAeq 15 Min	66.3	71	TSE Works Compliant
CDS_06, 344 Mowbray Road, Chatswood	26/09/2018	Attended	Y	LAeq 15 Min	68.7	81	TSE Works Compliant
PS_02, 329 Pitt Street	26/09/2018	Attended	Y	LAeq 15 Min	75.0	66.8	TSE Works Compliant
PS_02, 329 Pitt Street	27/09/2018	Attended	Y	LAeq 15 Min	69.5	65	TSE Works Compliant. Traffic Dominant Noise Source
MP_02, 17 Castlereagh Street, Sydney	27/09/2018	Attended	Y	LAeq 15 Min	65.6	70	TSE Works Compliant
CDS_06, 344 Mowbray Road, Chatswood	27/09/2018	Attended	Y	LAeq 15 Min	65.3	66	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
CDS_04, 335 Mowbray Road, Chatswood	27/09/2018	Attended	Y	LAeq 15 Min	54.8	67	TSE Works Compliant
VC_07, 77 Berry Street, North Sydney	27/09/2018	Attended	Y	LAeq 15 Min	62.3	67	TSE Works Compliant
CDS_06, 344 Mowbray Road, Chatswood	27/09/2018	Attended	Y	LAeq 15 Min	67.6	81	TSE Works Compliant
CDS_04, 335 Mowbray Road, Chatswood	27/09/2018	Attended	Y	LAeq 15 Min	63.8	82	TSE Works Compliant
10-12 Clarke Street	27/09/2018	Attended	Y	LAeq 15 Min	68.0	54	Elevated noise level was recorded, incorrect target value had been specified for works being undertaken. Reported to EPA
CN_04, 376 Pacific Highway, Crows Nest.	27/09/2018	Attended	Y	LAeq 15 Min	71.5	54	Elevated noise level was recorded, incorrect target value had been specified for works being undertaken. Reported to EPA
MP_04, 50 Martin Place (internal plant room)	28/09/2018	Attended	Y	LAeq 15 Min	74.7	60	TSE Works Compliant. TSE works inaudible over plant room noise
CN_04, 376 Pacific Highway, Crows Nest.	28/09/2018	Attended	Y	LAeq 15 Min	67.4	54	Elevated noise level was recorded, incorrect target value had been specified for works being undertaken. Reported to EPA

Table 4-1 Summary of Real Time Noise Analysis

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	
	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower
01/09/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
02/09/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
03/09/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
04/09/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
05/09/2018	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
06/09/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
07/09/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
08/09/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
09/09/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10/09/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11/09/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12/09/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
13/09/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
14/09/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
15/09/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
16/09/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
17/09/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
18/09/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
19/09/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
20/09/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

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	
	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower
21/09/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
22/09/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
23/09/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
24/09/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
25/09/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
26/09/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
27/09/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
28/09/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
29/09/2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
30/09/2018	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

Report for Condition E1.1 on 01/09/2018					
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?	Comments
		Permitted	Exceeded		
545 Pacific Highway	Upper	26	0	Yes	
	Lower	39	0	Yes	
10 to 12 Clarke Street	Upper	26	20	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	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	8	Yes	
60 Castlereagh St (Roof Top)	Upper	26	0	Yes	
	Lower	39	0	Yes	
Report for Condition E1.1 on 02/09/2018					
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?	Comments
		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	
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 03/09/2018					
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?	Comments
		Permitted	Exceeded		
545 Pacific Highway	Upper	26	0	Yes	
	Lower	39	0	Yes	
10 to 12 Clarke Street	Upper	26	24	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	1	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	
243 Miller St	Upper	26	15	Yes	
	Lower	39	35	Yes	
60 Castlereagh St (Roof Top)	Upper	26	0	Yes	
	Lower	39	0	Yes	
Report for Condition E1.1 on 04/09/2018					
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?	Comments
		Permitted	Exceeded		
545 Pacific Highway	Upper	26	0	Yes	
	Lower	39	0	Yes	
10 to 12 Clarke Street	Upper	26	7	Yes	
	Lower	39	35	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	5	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	23	Yes	
	Lower	39	42	No	1
60 Castlereagh St (Roof Top)	Upper	26	0	Yes	
	Lower	39	0	Yes	

Report for Condition E1.1 on 05/09/2018					
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?	Comments
		Permitted	Exceeded		
545 Pacific Highway	Upper	26	0	Yes	
	Lower	39	0	Yes	
10 to 12 Clarke Street	Upper	26	27	No	2
	Lower	39	38	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	4	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	11	Yes	
	Lower	39	37	Yes	
60 Castlereagh St (Roof Top)	Upper	26	0	Yes	
	Lower	39	0	Yes	
Report for Condition E1.1 on 06/09/2018					
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?	Comments
		Permitted	Exceeded		
545 Pacific Highway	Upper	26	0	Yes	
	Lower	39	0	Yes	
10 to 12 Clarke Street	Upper	26	6	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	2	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	21	Yes	
	Lower	39	34	Yes	
60 Castlereagh St (Roof Top)	Upper	26	0	Yes	
	Lower	39	0	Yes	

Report for Condition E1.1 on 07/09/2018					
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?	Comments
		Permitted	Exceeded		
545 Pacific Highway	Upper	26	0	Yes	
	Lower	39	0	Yes	
10 to 12 Clarke Street	Upper	26	2	Yes	
	Lower	39	22	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	2	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	0	Yes	
243 Miller St	Upper	26	10	Yes	
	Lower	39	18	Yes	
60 Castlereagh St (Roof Top)	Upper	26	0	Yes	
	Lower	39	1	Yes	
Report for Condition E1.1 on 08/09/2018					
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?	Comments
		Permitted	Exceeded		
545 Pacific Highway	Upper	26	0	Yes	
	Lower	39	0	Yes	
10 to 12 Clarke Street	Upper	26	1	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	1	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	10	Yes	
	Lower	39	15	Yes	
60 Castlereagh St (Roof Top)	Upper	26	0	Yes	
	Lower	39	0	Yes	

Report for Condition E1.1 on 09/09/2018					
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?	Comments
		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 10/09/2018					
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?	Comments
		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	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	13	Yes	
	Lower	39	28	Yes	
60 Castlereagh St (Roof Top)	Upper	26	0	Yes	
	Lower	39	0	Yes	

Report for Condition E1.1 on 11/09/2018					
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?	Comments
		Permitted	Exceeded		
545 Pacific Highway	Upper	26	0	Yes	
	Lower	39	0	Yes	
10 to 12 Clarke Street	Upper	26	9	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	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	23	Yes	
	Lower	39	39	Yes	
60 Castlereagh St (Roof Top)	Upper	26	0	Yes	
	Lower	39	0	Yes	
Report for Condition E1.1 on 12/09/2018					
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?	Comments
		Permitted	Exceeded		
545 Pacific Highway	Upper	26	0	Yes	
	Lower	39	0	Yes	
10 to 12 Clarke Street	Upper	26	0	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	6	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	24	Yes	
	Lower	39	38	Yes	
60 Castlereagh St (Roof Top)	Upper	26	0	Yes	
	Lower	39	0	Yes	

Report for Condition E1.1 on 13/09/2018					
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?	Comments
		Permitted	Exceeded		
545 Pacific Highway	Upper	26	0	Yes	
	Lower	39	0	Yes	
10 to 12 Clarke Street	Upper	26	2	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	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	14	Yes	
	Lower	39	39	Yes	
60 Castlereagh St (Roof Top)	Upper	26	0	Yes	
	Lower	39	0	Yes	
Report for Condition E1.1 on 14/09/2018					
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?	Comments
		Permitted	Exceeded		
545 Pacific Highway	Upper	26	0	Yes	
	Lower	39	0	Yes	
10 to 12 Clarke Street	Upper	26	0	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	6	Yes	
	Lower	39	21	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	9	Yes	
	Lower	39	34	Yes	
60 Castlereagh St (Roof Top)	Upper	26	0	Yes	
	Lower	39	0	Yes	

Report for Condition E1.1 on 15/09/2018					
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?	Comments
		Permitted	Exceeded		
545 Pacific Highway	Upper	26	0	Yes	
	Lower	39	0	Yes	
10 to 12 Clarke Street	Upper	26	1	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	0	Yes	
	Lower	39	0	Yes	
50 Martin Place	Upper	26	0	Yes	
	Lower	39	1	Yes	
25A Hickson Road	Upper	26	0	Yes	
	Lower	39	0	Yes	
243 Miller St	Upper	26	1	Yes	
	Lower	39	2	Yes	
60 Castlereagh St (Roof Top)	Upper	26	0	Yes	
	Lower	39	0	Yes	
Report for Condition E1.1 on 16/09/2018					
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?	Comments
		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	
243 Miller St	Upper	26	1	Yes	
	Lower	39	3	Yes	
60 Castlereagh St (Roof Top)	Upper	26	0	Yes	
	Lower	39	0	Yes	

Report for Condition E1.1 on 17/09/2018					
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?	Comments
		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	6	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	2	Yes	
	Lower	39	16	Yes	
60 Castlereagh St (Roof Top)	Upper	26	0	Yes	
	Lower	39	0	Yes	
Report for Condition E1.1 on 18/09/2018					
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?	Comments
		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	26	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 19/09/2018					
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?	Comments
		Permitted	Exceeded		
545 Pacific Highway	Upper	26	0	Yes	
	Lower	39	0	Yes	
10 to 12 Clarke Street	Upper	26	2	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	11	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	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 20/09/2018					
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?	Comments
		Permitted	Exceeded		
545 Pacific Highway	Upper	26	0	Yes	
	Lower	39	0	Yes	
10 to 12 Clarke Street	Upper	26	3	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	2	Yes	
Edinburgh Castle Hotel	Upper	26	13	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	17	Yes	
	Lower	39	28	Yes	
60 Castlereagh St (Roof Top)	Upper	26	0	Yes	
	Lower	39	0	Yes	

Report for Condition E1.1 on 21/09/2018					
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?	Comments
		Permitted	Exceeded		
545 Pacific Highway	Upper	26	0	Yes	
	Lower	39	1	Yes	
10 to 12 Clarke Street	Upper	26	1	Yes	
	Lower	39	25	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	10	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	29	Yes	
60 Castlereagh St (Roof Top)	Upper	26	0	Yes	
	Lower	39	0	Yes	
Report for Condition E1.1 on 22/09/2018					
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?	Comments
		Permitted	Exceeded		
545 Pacific Highway	Upper	26	0	Yes	
	Lower	39	0	Yes	
10 to 12 Clarke Street	Upper	26	11	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	7	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 23/09/2018					
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?	Comments
		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 24/09/2018					
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?	Comments
		Permitted	Exceeded		
545 Pacific Highway	Upper	26	0	Yes	
	Lower	39	0	Yes	
10 to 12 Clarke Street	Upper	26	0	Yes	
	Lower	39	28	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	21	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	6	Yes	
	Lower	39	18	Yes	
60 Castlereagh St (Roof Top)	Upper	26	0	Yes	
	Lower	39	0	Yes	

Report for Condition E1.1 on 25/09/2018					
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?	Comments
		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	2	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	7	Yes	
	Lower	39	20	Yes	
60 Castlereagh St (Roof Top)	Upper	26	0	Yes	
	Lower	39	0	Yes	
Report for Condition E1.1 on 26/09/2018					
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?	Comments
		Permitted	Exceeded		
545 Pacific Highway	Upper	26	0	Yes	
	Lower	39	0	Yes	
10 to 12 Clarke Street	Upper	26	2	Yes	
	Lower	39	15	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	
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 27/09/2018					
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?	Comments
		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	3	Yes	
	Lower	39	28	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 28/09/2018					
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?	Comments
		Permitted	Exceeded		
545 Pacific Highway	Upper	26	0	Yes	
	Lower	39	0	Yes	
10 to 12 Clarke Street	Upper	26	2	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	0	Yes	
	Lower	39	21	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 29/09/2018					
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?	Comments
		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	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	0	Yes	
60 Castlereagh St (Roof Top)	Upper	26	0	Yes	
	Lower	39	0	Yes	
Report for Condition E1.1 on 30/09/2018					
Location	Noise Goal	15 minute periods in exceedance		Has condition been met?	Comments
		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	
243 Miller St	Upper	26	0	Yes	
	Lower	39	0	Yes	
60 Castlereagh St (Roof Top)	Upper	26	0	Yes	
	Lower	39	0	Yes	

Real Time Noise Analysis Results Comments:

1. 243 Miller Street displayed exceedances on 4 September 2018, during these time periods the logger was programmed to assume that high impact works were constantly occurring and a noise penalty was applied. A review of works was undertaken and where high noise impacts were not being undertaken the penalty was removed. When this correction was made all periods were compliant with E1.1. In addition, the raw data reported does not take into account internal/external façade loss. As the monitor is located outside, a 10-decibel reduction needs to be applied to represent façade loss.
2. The noise monitor located at 10-12 Clarke Street registered an exceedance on 5 September 2018. A +5dBA penalty is applied to each logging period by default. This penalty is only applicable for high impact activities. When removing the +5dBA penalty for logging periods where high impact works were not occurring and removing 10dBA for façade loss, the data displays 25 logging periods over 65dBA and 37 logging periods above 60dBA. These levels are 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
01/09/2018	0.51	4.14	0.52	1.4	0.11	0.32	0.98	5.11	0.16
02/09/2018	0.51	0.16	0.08	0.37	0.18	0.22	0.23	1.76	0.15
03/09/2018	1.08	0.46	0.6	15	0.13	0.22	0.72	3.41	0.26
04/09/2018	0.57	2.86	0.88	21.31	0.11	0.23	1.03	2.11	0.36
05/09/2018	1.16	0.46	1.36	2.84	0.08	0.32	1.26	1.95	0.15
06/09/2018	1.57	0.79	1.04	12.29	0.1	0.22	0.54	9.9	0.45
07/09/2018	0.32	0.38	0.41	3.92	0.11	0.23	0.95	3.62	0.49
08/09/2018	0.81	0.22	0.26	12.05	0.18	0.67	1.26	1.65	0.22
09/09/2018	0.27	0.16	0.19	0.31	0.11	0.35	0.18	1.87	0.13
10/09/2018	0.87	0.33	0.25	58.47	0.18	0.22	0.93	8.92	0.3
11/09/2018	1.24	0.66	0.49	4.57	0.1	0.5	1.52	2.49	0.83
12/09/2018	1.14	0.51	0.4	3.9	0.15	0.59	1.39	2	0.46
13/09/2018	0.57	0.49	0.27	3.37	0.08	10.14	1.47	2.33	0.61
14/09/2018	0.68	0.36	0.4	0.54	0.13	3.4	1.05	3.22	0.07
15/09/2018	0.54	0.41	0.19	0.77	0.18	0.32	1.9	3.65	-
16/09/2018	0.32	0.36	0.08	0.74	0.08	0.2	0.18	1.73	-
17/09/2018	0.43	0.49	0.78	0.54	0.13	1.06	1.21	4	0.25
18/09/2018	0.32	0.3	0.29	0.94	0.43	1.62	1.18	2.81	0.25
19/09/2018	0.87	0.46	0.27	1.82	0.28	0.66	1.16	5.46	1.18
20/09/2018	2.08	0.33	0.27	1.37	0.1	0.27	0.75	1.51	0.95
21/09/2018	0.65	0.49	0.44	1.51	0.1	0.27	1.03	36.02	0.88
22/09/2018	0.73	1.05	0.16	0.89	0.13	0.42	0.82	2.22	1.83
23/09/2018	0.68	0.28	0.11	0.63	0.15	0.21	0.81	1.19	0.07
24/09/2018	0.51	0.31	0.48	1.71	0.11	0.29	0.93	1.73	0.74
25/09/2018	0.6	0.52	0.55	0.67	0.13	0.32	0.98	3.46	0.99
26/09/2018	0.46	0.35	0.74	0.75	0.18	0.34	1.39	3.87	0.86
27/09/2018	0.38	0.61	0.27	0.57	0.13	0.25	0.72	1.73	1.47
28/09/2018	0.81	0.59	0.3	1.23	0.2	0.25	0.67	1.65	0.69
29/09/2018	0.38	0.16	0.42	0.66	0.1	0.22	0.18	4.38	0.09
30/09/2018	1.33	0.19	0.37	0.34	0.13	0.22	0.23	2.56	0.09
Criteria	25	25	25	7.5	25	7.5	25	7.5	7.5

Real-Time Vibration Results Comments:

243 Miller Street, North Sydney

Vibration exceedances were recorded at the 243 Miller St real-time monitor on the 3rd, 4th, 6th and 8th September likely as a result of rock breaking in the northern shaft. These levels ranged from 7.97mm/s to 21.31mm/s.

A site inspection was undertaken by the acoustic consultant on the 10th September to review the location and accuracy of the vibration monitor. As a result of this review the vibration monitor was relocated closer to the structure on 243 Miller St to provide a more representative vibration value.

Additional vibration monitoring was undertaken by the acoustic consultant on 10th September to develop a Site Law. The Site Law was used to extrapolate the vibration levels from the 3rd, 4th, 6th and 8th of September to the revised monitoring location.

The results of this analysis determined that the maximum vibration level of 21.3mm/s recorded on the 4th September corresponded to a vibration level of approximately 5mm/s at the main structure on 243 Miller St, the revised monitoring location therefore indicating vibration levels at the premise were below 7.5mm/s and compliant with vibration targets.

On the 10th September 2018 a reading of 58.47 mm/s was recorded, this was caused by the acoustic consultant moving/reinstalling the vibration monitor while it was still in operation.

50 Martin Place, Sydney

An alert was received at 16:02pm on 13/09/2018 stating that vibration had exceeded the vibration limit of 7.5mm/s at the 50 Martin Place Monitor at 15:59pm. The maximum vibration reading recorded during the exceedance was 10.1mm/s. The notification was sent out to the site representatives including the demolition contractor supervisors and engineers. Works were stopped and the work area assessed.

A 2T excavator with hammer attachment was operating in the void area between the bank and shopping circle breaking out a small section of concrete. When the trigger was received, works were stopped and the workplace inspected. Work methodology was reviewed and no further works were undertaken on the slab. Follow up attended vibration monitoring was undertaken on the 14 September 2018 during similar works. Results were recorded far below the trigger level. All subsequent vibration readings from this location have been recorded below 7.5mm/s.

Castlereagh Boutique Hotel

The real time vibration monitor located in the Castlereagh Boutique Hotel logged a vibration reading of 9.9mm/s on 6 September 2018 and 8.9mm/s on the 10 September 2018.

An investigation was carried out between the senior environmental coordinator and the site superintendent, and it was found that the nearest works being conducted in this area were the road header operating at the base of the Northern Access Shaft, approximately 20m below surface level (approx. 30m laterally, from monitoring point). The vibration readings

were assessed by an acoustic consultant and determined to be an anomaly not related to TSE works.

On 21 September 2018 the vibration monitor recorded vibration readings of 17.2mm/s (3:55pm, peak vertical), 36.02mm/s (4:15pm, peak vertical), and 20.47mm/s (4:18pm, peak vertical). These exceedances were attributed to a TSE team member knocking the geophone whilst installing a protective cover over it.