



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/ViewPOEOLicence.aspx?DOCID=175567&SYSUID=1&LICID=20971>

Discharge Water Monitoring

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

Noise and Vibration Monitoring

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

Real-Time Noise and Vibration Monitoring

Real-time noise and vibration monitors were operating at Barangaroo, Martin Place, Pitt Street and Victoria Cross during the November 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	Dates Sampled	Parameter/ Criteria/ Measured Value						Oil & Grease (None Visible)	Comments
			pH (6.5 – 8.5)			Turbidity (<35 NTU)				
			Min	Max	Average	Min	Max	Average		
2	CD_02	01/11/2019 to 30/11/2019	6.5	8.5	7.8	0.1	34.9	7.3	Nil	Compliant
3	VC_03	01/11/2019 to 30/11/2019	6.5	8.3	7.2	1.2	25.6	2.7	Nil	Compliant
2	BN_02	01/11/2019 to 30/11/2019	6.5	8.5	7.7	0.1	34.9	7.1	Nil	Compliant
2	BL_02	01/11/2019 to 30/11/2019	7.2	8.5	7.9	0.4	34.4	8.3	Nil	Compliant
1	MDS_01	01/11/2019 to 30/11/2019	6.6	8.5	7.6	0.4	34.9	1.5	Nil	Compliant

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	Measured VDV (m/s ^{1.75})	VDV Target (m/s ^{1.75})	VDV Compliant	Measured PPV (mm/s)	PPV Target (mm/s)	PPV Compliant
38-40 Pitt St, Sydney	11/11/2019	Attended	N/A	N/A	N/A	0.12	25	Y
20 Mitchell St, McMahons Pt	11/11/2019	Attended	N/A	N/A	N/A	0.12	25	Y
35-51 Mitchell St, McMahons Pt	12/11/2019	Attended	N/A	N/A	N/A	0.17	25	Y
62 Blues Point Rd, McMahons Pt	22/11/2019	Attended	N/A	N/A	N/A	0.27	25	Y
1 Cassins Ave, Nth Sydney	25/11/2019	Attended	N/A	N/A	N/A	0.12	25	Y
269 Miller St, Nth Sydney	25/11/2019	Attended	N/A	N/A	N/A	0.15	25	Y
270 Miller St, Nth Sydney	26/11/2019	Attended	N/A	N/A	N/A	0.12	25	Y
13 Mitchell St, McMahons Pt	28/11/2019	Attended	N/A	N/A	N/A	0.16	7.5	Y

Table 3: Noise Monitoring Data

Monitoring Location (Noise-Catchment Area, Street, Suburb)	Monitoring Date	Attended or Continuous Monitoring	Parameter	Measured Value dB(A)	Goals / Targets dB(A)	Comments
CN_03, 46 Hayberry St, Crows Nest	05/11/2019	Attended	LA _{eq} (15-min)	27.2	60	TSE Works compliant
CN_03, 70 Hayberry St, Crows Nest	05/11/2019	Attended	LA _{eq} (15-min)	31.7	60	TSE Works compliant
MP_03, 38-40 Pitt St, Sydney	11/11/2019	Attended	LA _{eq} (15-min)	56.7	55	TSE Works inaudible
BP_01, 20 Mitchell St, McMahons Pt	11/11/2019	Attended	LA _{eq} (15-min)	37.7	45	TSE Works compliant
BP_01, 35-51 Mitchell St, McMahons Pt	12/11/2019	Attended	LA _{eq} (15-min)	36.0	45	TSE Works compliant
PS_04, 281 Elizabeth St, Sydney	13/11/2019	Attended	LA _{eq} (15-min)	35.5	40	TSE Works compliant
BP_01, 62 Blues Point Rd, McMahons Pt	22/11/2019	Attended	LA _{eq} (15-min)	39.0	45	TSE Works compliant
VC_03, 1 Cassins Ave, Nth Sydney	25/11/2019	Attended	LA _{eq} (15-min)	37.2	35	TSE Works compliant
VC_03, 269 Miller St, Nth Sydney	25/11/2019	Attended	LA _{eq} (15-min)	25.6	35	TSE Works compliant
VC_03, 270 Miller St, Nth Sydney	26/11/2019	Attended	LA _{eq} (15-min)	36.2	35	TSE Works compliant
WS_02, 104 Raglan St, Waterloo	27/11/2019	Attended	LA _{eq} (15-min)	54.0	51	TSE works compliant, traffic dominant noise source
VC_07, 199 Miller St, Nth Sydney	27/11/2019	Attended	LA _{eq} (15-min)	68.0	70	TSE works compliant
WS_02, 104 Raglan St, Waterloo	27/11/2019	Attended	LA _{eq} (15-min)	58.6	51	TSE works compliant, traffic dominant noise source
BP_01, 13 Mitchell St, McMahons Pt	28/11/2019	Attended	LA _{eq} (15-min)	33.8	45	TSE Works compliant
WS_04, 62-72 Botany Rd, Waterloo	28/11/2019	Attended	LA _{eq} (15-min)	66.6	61	TSE works compliant, traffic dominant noise source

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

Date	65 Berry Street		Castlereagh Boutique Hotel		Edinburgh Castle Hotel		50 Martin Place		25A Hickson Road		50 McLaren St		60 Castlereagh Street (Basement)	
	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower
01/11/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
02/11/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
03/11/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
04/11/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
05/11/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
06/11/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
07/11/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
08/11/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
09/11/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10/11/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11/11/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12/11/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
13/11/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
14/11/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
15/11/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
16/11/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
17/11/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
18/11/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
19/11/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
20/11/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
21/11/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
22/11/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
23/11/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
24/11/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
25/11/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
26/11/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
27/11/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
28/11/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
29/11/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
30/11/2019	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 01/11/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
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	14	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	5	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	0	Yes
Report for Condition E1.1 on 02/11/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
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	2	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	11	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	0	Yes

Report for Condition E1.1 on 03/11/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
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
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	3	Yes
50 McLaren St	Upper	26	1	Yes
	Lower	39	2	Yes
Report for Condition E1.1 on 04/11/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
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
60 Castlereagh St (Basement)	Upper	26	4	Yes
	Lower	39	6	Yes
50 McLaren St	Upper	26	2	Yes
	Lower	39	7	Yes

Report for Condition E1.1 on 04/11/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
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
60 Castlereagh St (Basement)	Upper	26	4	Yes
	Lower	39	6	Yes
50 McLaren St	Upper	26	2	Yes
	Lower	39	7	Yes
Report for Condition E1.1 on 05/11/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
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	4	Yes
	Lower	39	19	Yes
60 Castlereagh St (Basement)	Upper	26	4	Yes
	Lower	39	10	Yes
50 McLaren St	Upper	26	1	Yes
	Lower	39	1	Yes

Report for Condition E1.1 on 07/11/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	13	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	17	Yes
	Lower	39	20	Yes
50 McLaren St	Upper	26	12	Yes
	Lower	39	25	Yes
Report for Condition E1.1 on 08/11/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
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
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	3	Yes
	Lower	39	8	Yes
50 McLaren St	Upper	26	7	Yes
	Lower	39	9	Yes

Report for Condition E1.1 on 09/11/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
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
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	2	Yes
50 McLaren St	Upper	26	3	Yes
	Lower	39	5	Yes
Report for Condition E1.1 on 10/11/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
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
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	2	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	0	Yes

Report for Condition E1.1 on 11/11/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
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
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	2	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	0	Yes
Report for Condition E1.1 on 12/11/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
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	1	Yes
	Lower	39	4	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	1	Yes
	Lower	39	4	Yes
50 McLaren St	Upper	26	2	Yes
	Lower	39	8	Yes

Report for Condition E1.1 on 13/11/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
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
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	4	Yes
	Lower	39	6	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	1	Yes
Report for Condition E1.1 on 14/11/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
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
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	14	Yes
	Lower	39	22	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	0	Yes

Report for Condition E1.1 on 15/11/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
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
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	3	Yes
	Lower	39	7	Yes
50 McLaren St	Upper	26	20	Yes
	Lower	39	26	Yes
Report for Condition E1.1 on 16/11/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
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
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	4	Yes
	Lower	39	7	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	0	Yes

Report for Condition E1.1 on 17/11/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
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
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	1	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	0	Yes
Report for Condition E1.1 on 18/11/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
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
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	3	Yes
	Lower	39	8	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	0	Yes

Report for Condition E1.1 on 19/11/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
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
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	2	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	0	Yes
Report for Condition E1.1 on 20/11/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
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
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	2	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	1	Yes

Report for Condition E1.1 on 21/11/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
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	4	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	2	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	0	Yes
Report for Condition E1.1 on 22/11/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
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
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	1	Yes
	Lower	39	2	Yes
50 McLaren St	Upper	26	2	Yes
	Lower	39	3	Yes

Report for Condition E1.1 on 23/11/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
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
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	3	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	0	Yes
Report for Condition E1.1 on 24/11/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
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
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	2	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	0	Yes

Report for Condition E1.1 on 25/11/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
65 Berry St	Upper	26	1	Yes
	Lower	39	4	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	14	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	1	Yes
	Lower	39	1	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	4	Yes
Report for Condition E1.1 on 26/11/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
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
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	2	Yes
50 McLaren St	Upper	26	3	Yes
	Lower	39	7	Yes

Report for Condition E1.1 on 27/11/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	13	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	8	Yes
	Lower	39	13	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	1	Yes
Report for Condition E1.1 on 28/11/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
65 Berry St	Upper	26	0	Yes
	Lower	39	1	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	6	Yes
	Lower	39	20	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	3	Yes
	Lower	39	7	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	4	Yes

Report for Condition E1.1 on 29/11/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
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
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	2	Yes
	Lower	39	4	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	3	Yes
Report for Condition E1.1 on 30/11/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
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
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	1	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	1	Yes

Real Time Noise Results Comments:

Compliance with condition E1.1 was met at all monitoring locations during the reporting period.

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

Day	65 Berry Street, North Sydney	25A Hickson Road, Millers Point	50 Martin Place, Sydney	60 Castlereagh Street (Basement), Sydney	Castlereagh Boutique Hotel	211-217 Castlereagh Street, Sydney
Criteria (mm/s)	25	25	7.5	25	7.5	25
01/11/2019	0.93	0.18	0.36	2.06	2.98	0.93
02/11/2019	0.25	0.11	0.27	0.64	4.62	0.26
03/11/2019	0.16	0.13	0.27	0.46	0.21	0.06
04/11/2019	1.82	0.15	0.29	1.13	1.75	1.39
05/11/2019	1.23	0.13	0.85	1.08	2.12	1.21
06/11/2019	1.75	0.1	1.86	0.87	0.78	5.17
07/11/2019	0.59	0.4	0.5	0.44	1.98	0.98
08/11/2019	1.07	0.14	0.27	0.75	3.43	3.01
09/11/2019	0.16	0.52	0.29	1.08	0.26	1.72
10/11/2019	0.13	0.15	0.29	0.46	7.48	0.09
11/11/2019	0.24	0.15	0.42	0.82	0.77	4.04
12/11/2019	0.66	0.23	0.51	5.02	1.91	1.04
13/11/2019	0.29	1.02	0.62	8.23	4.16	0.47
14/11/2019	0.78	0.23	8.13	10.21	1.67	0.82
15/11/2019	0.4	0.19	1.12	7.65	7.48	2.03
16/11/2019	0.13	0.18	0.62	0.41	3.67	3.32
17/11/2019	0.11	0.27	0.29	0.31	0.29	0.13
18/11/2019	0.74	0.11	0.48	0.44	3.6	3.23
19/11/2019	0.72	0.16	0.4	0.9	4.08	0.47
20/11/2019	1.42	0.15	0.36	0.75	6.04	1.04
21/11/2019	0.59	0.19	0.42	0.62	7.73	0.68
22/11/2019	0.35	0.15	0.32	0.41	1.36	0.25
23/11/2019	0.33	0	2.55	0.36	1.03	0.59
24/11/2019	0.29	0	0.29	0.31	0.46	0.09
25/11/2019	0.86	0.14	0.56	0.85	3.57	0.2
26/11/2019	0.45	0.79	0.39	0.77	2.89	2.09
27/11/2019	0.62	0.2	0.35	13.12	4.4	0.98
28/11/2019	0.35	0.18	0.39	1.03	2.68	0.53
29/11/2019	0.37	0.18	0.32	0.33	2.45	0.81
30/11/2019	0.53	0.3	0.37	0.31	1.23	0.1

Real-Time Vibration Results Comments:

50 Martin Place, Sydney

A vibration alert was received on the 14/11/2019 at 13:20 with a reading of 8.1mm/s. Upon receiving the vibration alert work was stopped immediately in line with our CNVMP, works were reviewed and a 14T excavator working near the escalator barrel was replaced with small handheld jackhammers.

Castlereagh Boutique Hotel

A vibration alert was received on the 21/11/2019 at 14:14 with a reading of 7.73mm/s. Upon receiving the vibration alert work was stopped immediately in line with our CNVMP. The works to remove the concrete slab were reviewed and amended to prevent further vibration exceedances.