OSTERMAN

Quarterly Environmental Monitoring Report

June 2022 - September 2022

Sydney Metro West
Parramatta

Prepared for: Delta Group
10th October 2022
Report no. 0121-023-01-Q3
Prepared by Mark Della Sabina

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Revision History				
Rev no.	**Date**	**Description**	**Prepared by**	**Reviewed by**
0	10/10/2022	Initial Version	Mark Della Sabina	Rauf Osterman

1. Introduction

1.1. Project Overview

The Sydney Metro West project is a new 24-kilometre metro line with stations confirmed at Westmead, Parramatta, Sydney Olympic Park, North Strathfield, Burwood North, Five Dock, The Bays, Pyrmont and Hunter Street in the Sydney CBD. Refer to Figure 1 for an overview of the alignment.

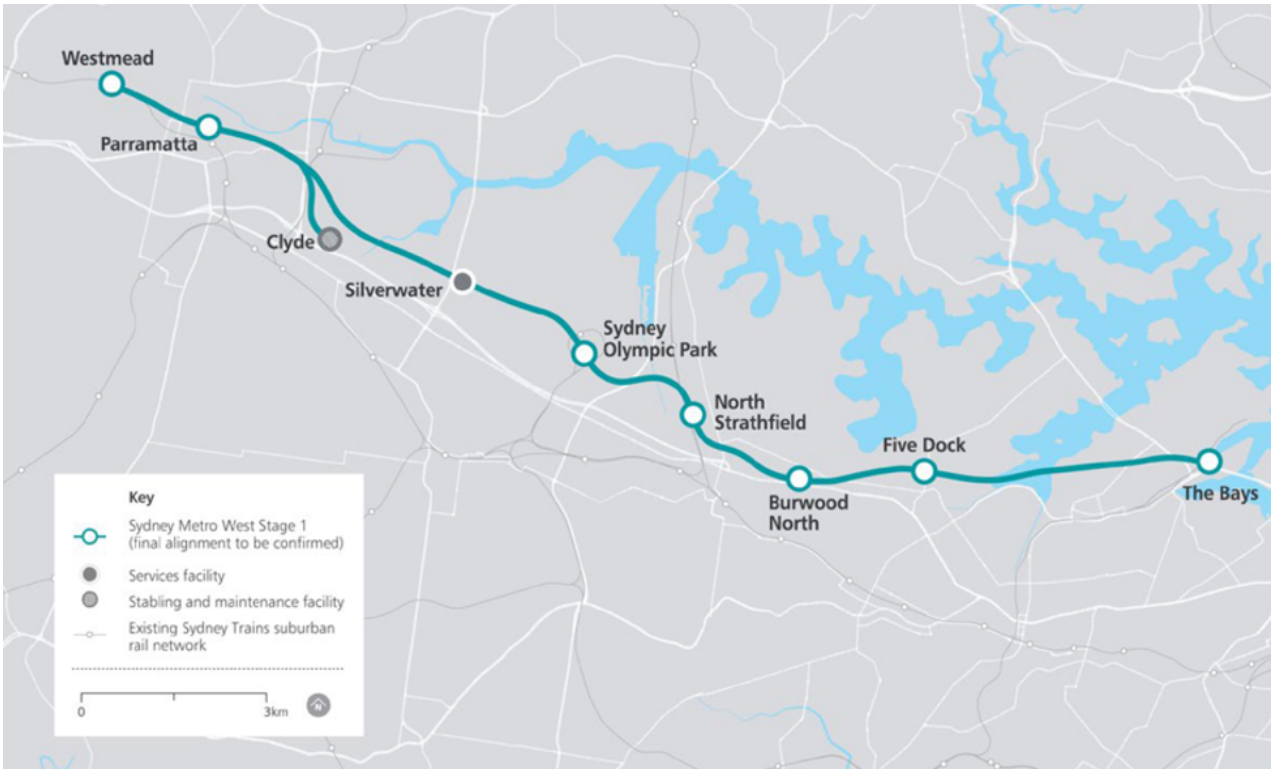

Figure 1: Sydney Metro West Alignment

Source: Sydney Metro West Amendment Report

1.2. Scope

Delta Pty Ltd (Delta) is responsible for delivering the Enabling Works Package which involves the clearance of structures and vegetation within three sites at Clyde, Parramatta and Westmead. Works are generally broken down into the following stages applicable to all sites:

i) site establishment works;

ii) service disconnections and relocations;

iii) hazardous materials (HAZMAT) removal;

iv) internal strip-out of structures; and

v) demolition of existing structures and site clearing.

Note that this quarterly report provides a summary of data for the Parramatta site only as works at the Clyde and Westmead sites were completed in the previous quarter.

1.3. Construction Activities

The degree of noise impact on adjacent sensitive receivers from construction activities is highly dependent on the type and size of machinery used. A list of construction machinery associated with the Scope of Works is provided in Table 1.

Table 1. Construction Equipment and Activities

Equipment	Construction Activity
Hand tools	Strip Out
2T Excavators	Strip Out
5T Excavators	Strip Out
5T Excavators w/hammer	Structural Demolition
12T Excavators w/hammer	Structural Demolition
47T Excavators w/hammer	Structural Demolition
47T Excavators w/hydraulic shears/pulverisers/ bucket	Structural Demolition
Mustang Bobcats	Strip Out
Concrete Saw	Structural Demolition
Trucks	Transport
Concrete Cutters	Structural Demolition

2. Monitoring and Reporting

2.1. Permanent Monitor Installations

Noise and vibration levels were monitored throughout the quarter using the Sigicom INFRA environmental monitoring system. The INFRA system provides real-time, continuous noise and vibration monitoring through its network of Class 1 S50 noise microphones and V12 triaxial geophones (Figure 2), and C22 compact triaxial geophones (Figure 3). Data is uploaded automatically to a central server via the 4G network and is accessible via the INFRA Net web portal. A list of active monitoring points for the Parramatta site is provided in Section 3 below.

Figure 2: Monitor with V12 Geophone & S50 Microphone (218 Church St)

Figure 3: C22 Vibration Monitor (Kia Ora)

2.2. Attended Monitoring

No attended monitoring was conducted during the quarter.

2.3. Reporting

Data from the permanent monitor installations is collated into a weekly monitoring report for the site and submitted to key stakeholders for ongoing monitoring of compliance. An example of a weekly monitoring report for the Parramatta site is provided in Appendix A.

This quarterly report has been prepared for the 3-month period commencing June 2022 in accordance with the Noise and Vibration Monitoring Program and Condition C23 of the Planning Approval (SSI 10038), and summarises the data presented in the weekly reports.

Note that Delta's scope of works came to completion in late September 2022. Whilst technically in the next quarter, the several weeks of monitoring data captured in the month of September has been included in this quarterly report in order to finalise reporting requirements.

3. Parramatta

3.1. Monitoring Locations

Active monitoring locations for the Parramatta site are listed in Table 2 and illustrated in Figure 4.

Table 2. Parramatta Monitoring Points

ID	Receiver	Monitor Location	Monitor Type & Serial No.	Monitor Installed	Works Commenced	Monitor Removed
1	25 Smith St	UG Parking	C22 Vibration #102620	01/12/2021	11/12/2021	28/09/2022
2	25 Smith St	Level 6 (Internal)	V12 Vibration #25110	01/12/2021	11/12/2021	28/09/2022
3	25 Smith St	Level 6 (Internal)	S50 Noise #10883	01/12/2021	11/12/2021	28/09/2022
4	62-64 Macquarie St	East Facade	C22 Vibration #102365	07/12/2021	11/12/2021	28/09/2022
5	29 Smith St	Level 2 (Balcony)	S50 Noise #10835	07/12/2021	11/12/2021	28/09/2022
6	119 Macquarie St	Leigh Memorial Church	S50 Noise #10887	07/12/2021	11/12/2021	28/09/2022
7	Roxy Theatre	Perimeter Wall	C22 Vibration #101604	14/01/2022	21/01/2022	16/09/2022
8	62-64 Macquarie St	West Facade	C22 Vibration #106838	07/04/2022	22/04/2022	28/09/2022
9	62-64 Macquarie St	North Facade	V12 Vibration #21760	07/04/2022	22/04/2022	28/09/2022
10	240 Church St	Internal Office	S50 Noise #11103	24/04/2022	30/04/2022	15/07/2022
11	240 Church St	Internal Office	V12 Vibration #26270	24/04/2022	30/04/2022	15/07/2022
12	216-218 Church St	Supply Cupboard	S50 Noise #10439	02/05/2022	09/05/2022	15/07/2022
13	216-218 Church St	Supply Cupboard	V12 Vibration #25760	02/05/2022	09/05/2022	15/07/2022
14	211 Church St	UNE Facade	S50 Noise #9923	03/05/2022	09/05/2022	15/07/2022
15	43-47 George St	East Facade	C22 Vibration #107549	13/05/2022	31/05/2022	15/07/2022
16	43-47 George St	West Facade	C22 Vibration #107553	13/05/2022	31/05/2022	15/07/2022
17	37-39 George St	IGA	V12 Vibration #25910	17/05/2022	31/05/2022	15/07/2022
18	37-39 George St	IGA	S50 Noise #10786	17/05/2022	31/05/2022	15/07/2022
19	43-47 George St	South Facade	C22 Vibration #107554	17/05/2022	31/05/2022	15/07/2022

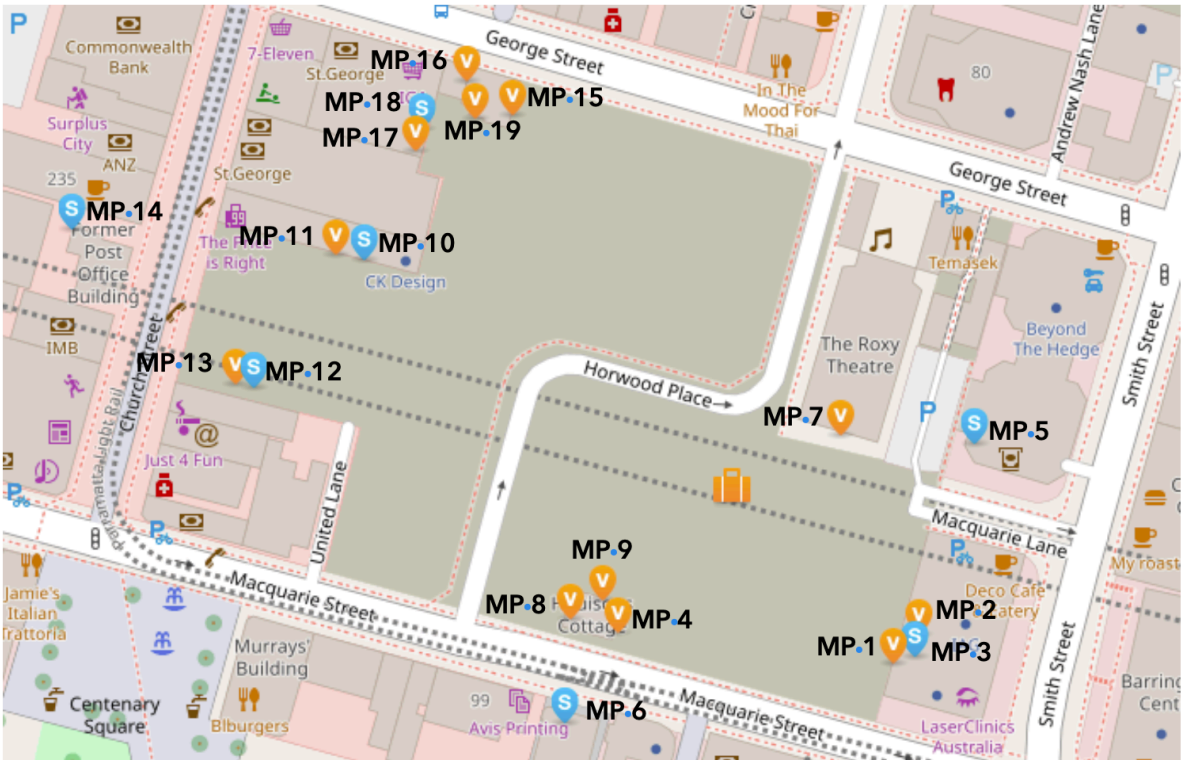

Figure 4: Parramatta Monitoring Locations

3.2. Noise Monitoring Results

A summary of the quarterly noise monitoring results for the Parramatta site is presented in Table 3. Final data from the September period is presented in Table 4.

Table 3. Noise Compliance - Parramatta

MP	NML dB(A) $L_{eq\ (15\ min)}$	June 22		July 22		August 22	
		Intervals above NML	Compliance	Intervals above NML	Compliance	Intervals above NML	Compliance
3	45#	176	87%	298	78%	199	85%
5	70	1	99%	129	91%	24	98%
6	45#	273	79%	208	85%	306	78%
10	45#	488	26%	551	17%	-	-%
12	45#	458	65%	302	54%	-	-%
14	70	26	98%	0	100%	-	-%
18	45#	16	99%	10	99%	-	-%

#Internal NML equivalent to external NML of 70dB(A) assuming 25dB facade reduction

Table 4. Noise Compliance - Parramatta			
MP	NML dB(A) $L_{eq\ (15\ min)}$	September 22	
		Intervals above NML	Compliance
3	45#	142	88%
5	70	12	99%
6	45#	132	89%

Graphs of the noise monitoring results for the quarter are provided in Appendix B.

The following is noted with regards to noise compliance for the quarter:

- MP 3 (25 Smith St - Internal) - Noise levels at this location were predicted to exceed the internal NML of 45dB(A) at times due to the proximity of works to the receiver. While this is reflected in the quarterly results, it is also noted that internal noise within 25 Smith St contributed to these results throughout the quarter.
- MP 6 (Leigh Memorial Church - Internal) - Predicted noise levels complied with the internal NML of 45dB(A) for a majority of the reporting period, however some exceedances were noted as a result of the works. It was also noted that exceedances occurred as a result of increased activity within the church.
- MP10 (240 Church St) - Noise levels were predicted to occasionally exceed the criterion where works occurred closest to the site boundary adjoining this receiver. The low compliance however is a reflection of the location of the monitor inside a working business. Transient noise recordings indicated a majority of noise exceedances were due to noise from within the premises.
- MP12 (216-218 Church St) - Noise levels were predicted to occasionally exceed the criterion where works occurred closest to the site boundary adjoining this receiver. The reduced compliance in this location is, in part, due to a change of ownership of the business in which the monitor was located and a subsequent refurbishment and stock rotation.
- Other monitoring locations were mostly compliant with the relevant noise criteria during the reporting period.

3.3. Vibration Monitoring Results

A summary of the quarterly vibration monitoring results for the Parramatta site is presented in Table 5. Final data from the September period is presented in Table 6.

Table 5. Vibration Compliance - Parramatta								
MP	Criteria (mm/s)		June 22		July 22		August 22	
	Warning	Halt	No. readings above Warning Level	No. readings above Halt Level	No. readings above Warning Level	No. readings above Halt Level	No. readings above Warning Level	No. readings above Halt Level
1	20	25	0	0	0	0	0	0
2	20	25	0	0	0	0	0	0
4	5	7.5	0	1	0	0	10	4
7	5	7.5	0	0	0	2	0	1
8	5	7.5	1	0	0	0	3	3
9	5	7.5	0	0	0	0	8	5
11	20	25.0	0	0	0	0	-	-
13	20	25.0	0	1	0	0	-	-
15	5	7.5	5	4	0	0	-	-
16	5	7.5	1	6	0	0	-	-
17	20	25.0	0	0	0	0	-	-
19	5	7.5	0	3	0	0	-	-

Table 6. Vibration Compliance - Parramatta				
MP	Criteria (mm/s)		September 22	
	Warning	Halt	No. readings above Warning Level	No. readings above Halt Level
1	20	25	0	0
2	20	25	0	0
4	5	7.5	3	4
7	5	7.5	0	0
8	5	7.5	1	0
9	5	7.5	2	0

The following is noted with regards to vibration compliance for the quarter:

- Multiple vibration readings above the Halt Level were noted at MP4 across the 17th to 19th of August. This was associated with break up and removal of footings adjacent to this receiver. Work methodology was reviewed as a result of text alerts received by the site foreman at the time and a smaller excavator was subsequently brought in to complete the works.
- Vibration readings above the Halt Level were noted at MP4 across the 5th to 7th of September due to demolition of a slab and additional footings adjacent to this receiver. Works were completed using the smallest possible machinery available.
- Vibration readings above the Halt Level were noted at MP7 on the 31st of July. This was due to demolition of the upstand within a metre of this receiver. During the short-term works (approximately 20 minutes), the operator maintained a safe distance from the structure and monitored the works to minimise the potential for impacts to the heritage structure.
- A vibration reading above the Halt Level was noted at MP7 on the 8th of August. This was due to bumping of the monitor during removal of asphalt adjacent this receiver.
- Multiple vibration readings above the Halt Level were noted at MP8 and MP9 between the 5th to the 9th of August. These related to a critical element of the works that were required to be made safe by the end of each shift, including stripping of scaffold in order to leave the project safe overnight. Alternative demolition methods were reviewed and considered involving smaller plant but due to the height of the works, the size of the concrete elements and the overarching priority to strip scaffold by end of each shift and make the works safe, it was agreed by site personnel to proceed with caution for the importance of safety to the site and public.
- Vibration readings above the Halt Level at MP15 in June appeared to be a result of movement of heavy machinery or heavy object. These exceedances were isolated and managed on site as a result of text alerts.
- Vibration readings above the Halt Level at MP16 in June were a result of the hand demolition of Aussie Home Loans building and some bricks inadvertently falling adjacent to the monitor. Workers were cautioned and no further exceedances were noted.
- Vibration readings above the Halt Level at MP19 in June were a result of a worker installing signs within the building. No remedial action was required.

Graphs of the vibration monitoring results for the quarter are provided in Appendix B.

4. Summary

Noise and vibration levels resulting from Delta's scope of works across the Parramatta site has been reviewed for the quarter. Overall, relatively few exceedances of the vibration criteria were noted throughout the quarter owing largely to the text alert system and the responsiveness of site personnel in adjusting work methodologies. This included moving works further away from receivers and utilising smaller machinery.

Noise levels have continued to exceed the relevant criteria for several locations across the Parramatta site however, as per previous quarters, this was largely anticipated given the proximity of demolition works to these sensitive receivers. It is noted that no noise-related complaints have been received during the quarter, owing to effective community consultation and responsiveness to monitoring alerts.

Appendices

Appendix A - Example of Parramatta Weekly Monitoring Report

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29 August 2022

Delta Group
Angus Lumsden
Project Manager

Environmental Monitoring Report - Sydney Metro Parramatta Project
17th August - 23rd August 2022

Please find attached environmental monitoring results for the Sydney Metro Parramatta Project from the 17th of August to the 23rd of August 2022.

There were 9 active monitoring points during the reporting period, as follows:

- Mp 1 - Vibration monitoring at 25 Smith St, UG Parking
- Mp 2 - Vibration monitoring at 25 Smith St, Level 6
- Mp 3 - Noise monitoring at 25 Smith St, Level 6 (Internal)
- Mp 4 - Vibration monitoring at 62-64 Macquarie St - East Facade
- Mp 5 - Noise monitoring at 29 Smith St, Level 2 Balcony
- Mp 6 - Noise monitoring at 119 Macquarie St - Leigh Memorial Church (Internal)
- Mp 7 - Vibration monitoring at The Roxy Theatre
- Mp 8 - Vibration monitoring at 62-64 Macquarie St - West Facade
- Mp 9 - Vibration monitoring at 62-64 Macquarie St - North Facade

The position of the current monitoring points are shown in Figure 1 below.

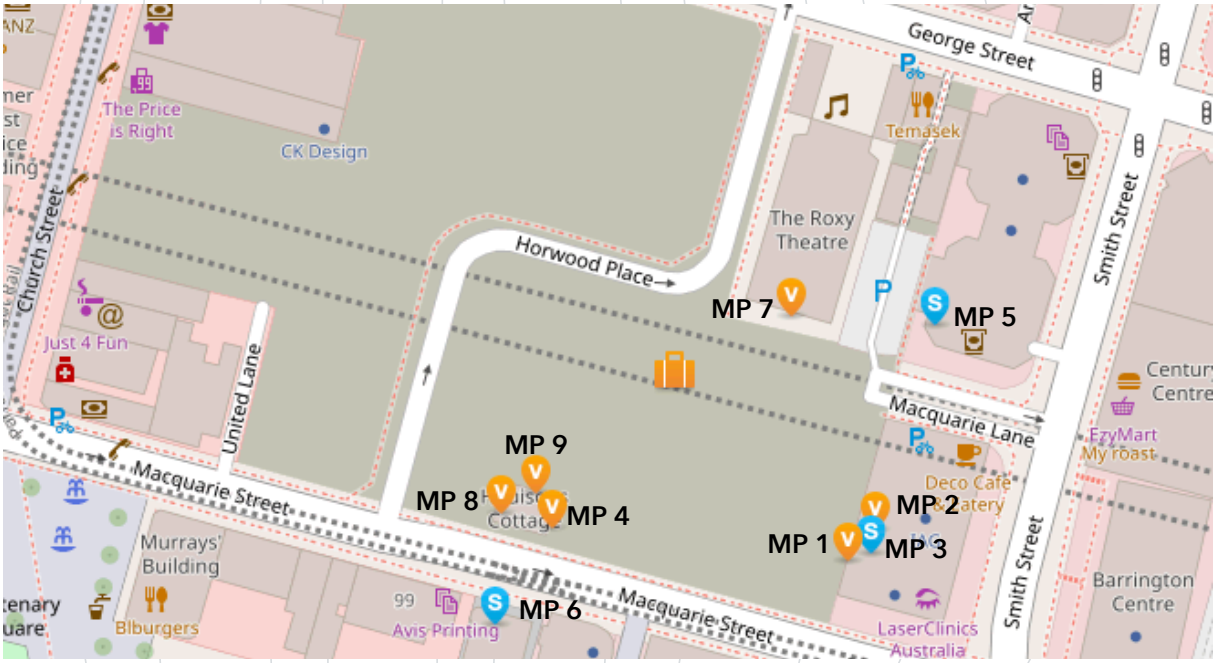

Figure 1: Monitoring Locations

Noise Monitoring Results

Table 1. $L_{A}eq$ (15min) results from MP 3 - 25 Smith St					
Date	Time	Range dBA $L_{eq\ (15min)}$	Average dBA $L_{eq\ (15min)}$	NML $L_{Aeq\ (15min)}$	No. of intervals above NML
17/08/2022	7:00 to 18:00	35 to 48	41	45dBA#	3
18/08/2022	7:00 to 18:00	38 to 50	43	45dBA#	6
19/08/2022	7:00 to 18:00	37 to 45	41	45dBA#	None
20/08/2022	7:00 to 18:00	35 to 49	39	45dBA#	2
21/08/2022	7:00 to 18:00	32 to 38	35	45dBA#	None
22/08/2022	7:00 to 18:00	38 to 42	40	45dBA#	None
23/08/2022	7:00 to 18:00	35 to 42	40	45dBA#	None

#Internal NML equivalent to external NML of 70dB(A) assuming 25dB facade reduction

Noise intervals were mostly compliant with the Noise Management Level (NML) or the internal 25 Smith St monitoring point during the reporting period. Some internal noise was evident in transient recordings.

Table 2. $L_{A}eq$ (15min) results from MP 5 - 29 Smith St					
Date	Time	Range dBA $L_{eq\ (15min)}$	Average dBA $L_{eq\ (15min)}$	NML $L_{Aeq\ (15min)}$	No. of intervals above NML
17/08/2022	7:00 to 18:00	53 to 74	60	70dBA	4
18/08/2022	7:00 to 18:00	54 to 72	60	70dBA	1
19/08/2022	7:00 to 18:00	53 to 64	58	70dBA	None
20/08/2022	7:00 to 18:00	51 to 72	57	70dBA	1
21/08/2022	7:00 to 18:00	47 to 55	51	70dBA	None
22/08/2022	7:00 to 18:00	53 to 63	57	70dBA	None
23/08/2022	7:00 to 18:00	52 to 62	58	70dBA	None

Noise intervals were mostly compliant with the Noise Management Level (NML) for the 29 Smith St monitoring point during the reporting period. Transient noise recordings indicate the few exceedances were due to hammering activity.

Table 3. L_{Aeq} (15min) results from MP 6 - Leigh Memorial Church					
Date	Time	Range dBA $L_{eq\ (15min)}$	Average dBA $L_{eq\ (15min)}$	NML $L_{Aeq\ (15min)}$	No. of intervals above NML
17/08/2022	7:00 to 18:00	39 to 49	44	45dBA#	15
18/08/2022	7:00 to 18:00	39 to 47	43	45dBA#	6
19/08/2022	7:00 to 18:00	38 to 48	43	45dBA#	5
20/08/2022	7:00 to 18:00	39 to 53	43	45dBA#	15
21/08/2022	7:00 to 18:00	39 to 65	46	45dBA#	19
22/08/2022	7:00 to 18:00	40 to 49	44	45dBA#	11
23/08/2022	7:00 to 18:00	39 to 51	44	45dBA#	15

#Internal NML equivalent to external NML of 70dB(A) assuming 25dB facade reduction

Noise intervals above the Noise Management Level (NML) were noted for the Leigh Memorial Church across all days of the reporting period. Exceedances recorded on the 21st of August were due to a service within the church.

Vibration Monitoring Results

Vibration results for the reporting period are presented in the following Table.

Table 4. Vibration Results									
			Maximum PPV (mm/s)						
MP	Location	Criteria (mm/s)	Wed 17/8	Thu 18/8	Fri 19/8	Sat 20/8	Sun 21/8	Mon 22/8	Tue 23/8
1	25 Smith St - UG parking	25	0.55	0.2	0.25	0.2	0.05	0.25	0.15
2	25 Smith St - Level 6	25	0.55	0.55	0.25	0.25	0.15	0.2	0.25
4	62-64 Macquarie St - East	7.5	14.7	7	12	1.4	0.15	1.75	2.65
7	The Roxy Theatre	7.5	0.25	1.3	0.5	0.25	0.1	0.2	0.35
8	62-64 Macquarie St - West	7.5	1.85	1.3	1.05	2.3	0.05	0.75	0.9
9	62-64 Macquarie St - North	7.5	4.1	3.6	2.9	2.65	0.1	2.6	1.75

A number of construction-related vibration exceedances were recorded during the reporting period. See Table 5 below for causes and remedial actions.

Table 5. Summary of Exceedances and Action				
Date	Time	MP	Cause	Remedial Action
17/08/2022	9:33am	4	Investigated & unsure - no plant in area	Followed up with Foreman
17/08/2022	11:23am	4	47T Munching concrete in 58-60 Macquarie St footprint	Operator directed to move further away from Heritage building
17/08/2022	1:38pm	4	38T removing 68 Macquarie slab adjacent Kia Ora	Operator cautioned on radio
17/08/2022	3:16pm	4	47T hammering concrete	35T separating footings - change method to reduce to 15T machine to hammer footings
19/08/2022	8:10am	4	Removal of footings 68 Macquarie Street	35T machine hammering footings - review method and monitor
19/08/2022	9:05am	4	Removal of footings 68 Macquarie Street	35T machine hammering footings - change method to separate the footings from their piles into segments
19/08/2022	9:10am	4	Removal of footings 68 Macquarie Street	15T machine hammering footings - change method to separate and work on edges of footings from open side of excavation to have space for concrete to break away
19/08/2022	9:19am	4	Removal of footings 68 Macquarie Street	Reduce down to 8T machine for separating closest to building

Meteorological Conditions

Meteorological conditions for the reporting period are provided below. These have been sourced from the Bureau of Meteorology website.

Table 6. Meteorological Conditions

Date	9am Temp (°C)	9am relative humidity (%)	9am cloud amount (oktas)	9am wind direction	9am wind speed (km/h)	3pm Temp (°C)	3pm relative humidity (%)	3pm cloud amount (oktas)	3pm wind direction	3pm wind speed (km/h)
17/08/2022	13.1	63		WNW	9	18.7	48		E	11
18/08/2022	10.9	86		NW	6	21.1	38		NW	9
19/08/2022	15.7	66		WNW	7	17.3	55		WSW	22
20/08/2022	13.8	59		NW	9	18.2	46		NW	13
21/08/2022	13.2	55		W	7	18.4	33		SSE	6
22/08/2022	15.2	62		NW	9	21.2	35		NW	20
23/08/2022	17.2	49		WNW	9	9.9	87		S	13

All recorded noise and vibration results from the project, as well as all raw data, will be stored for a minimum of 10 years on the Infra Net website.

Regards,

Mark Della Sabina

Consulting Engineer

Appendix B - Parramatta Noise and Vibration Graphs

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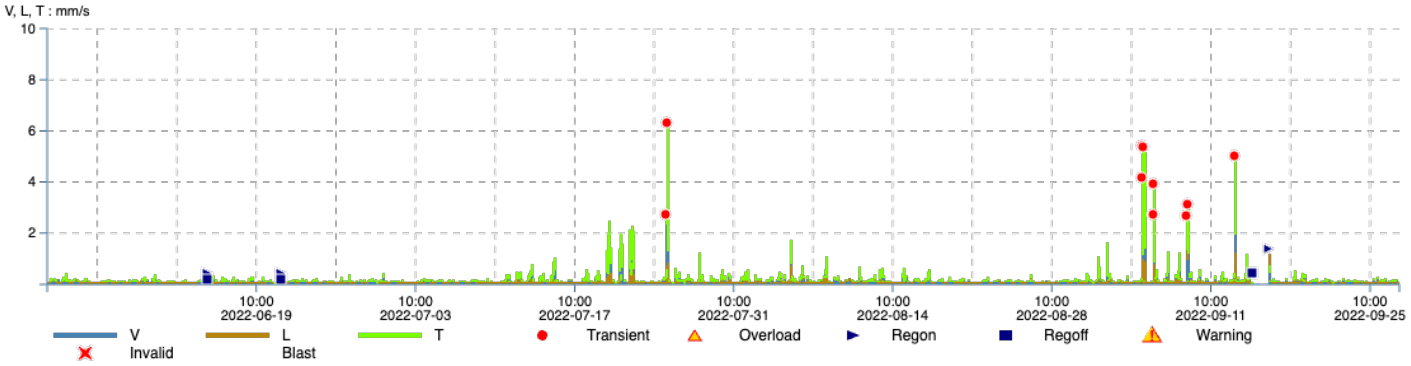
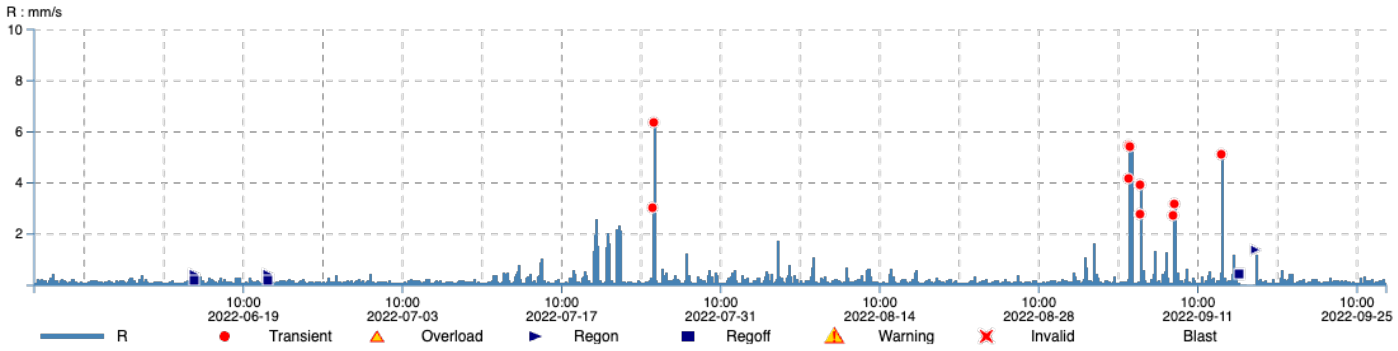
Interval report

Project	SM Parramatta
Project maintainer	Rauf Osterman
Customer	Delta Group
Customer contact	Angus Lumsden (+61431501281)
Time frame	2022-06-01 00:00 - 2022-09-27 23:59 (Australia/Sydney)

NB!
Chart data is aggregated by 2 h

Measure point	MP_1
Location	25 Smith St - UG Parking
Sensor type	C22
Serial no.	102620
Master(s) serial no.	102620
Latest calibration	2021-09-21
Standard	AS 2187.2-2006 250mm/s 2-250Hz
Unit	mm/s
Quantity	Velocity
Interval time	2 min
Max	V: 2.30 mm/s, L: 1.30 mm/s, T: 6.30 mm/s, R: 6.35 mm/s





X-span	2022-06-01 00:00:00 - 2022-09-27 23:59:00
Y-span	V, L, T : mm/s: 0.0 - 10.0, R : mm/s: 0.0 - 10.0

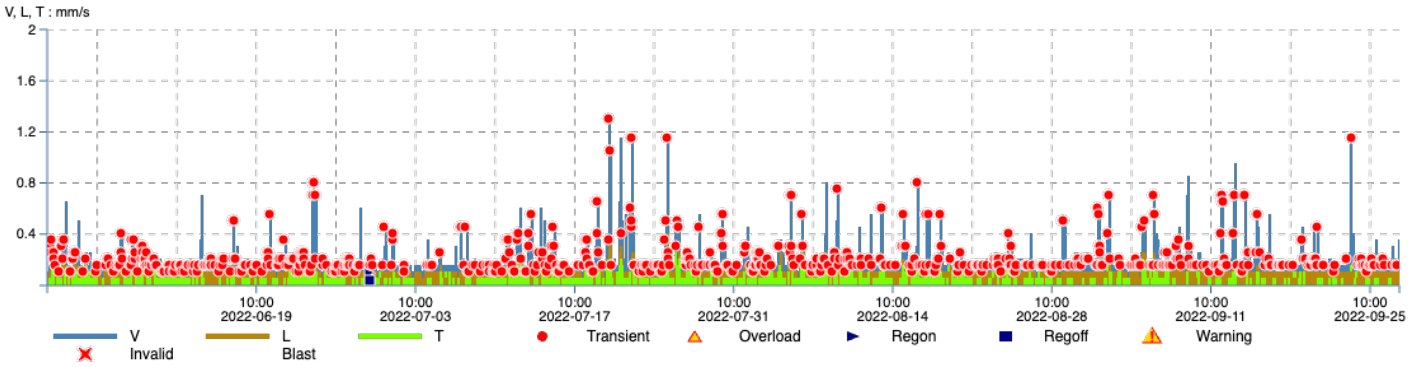
	V	L	T	R
Max	2.30 mm/s	1.30 mm/s	6.30 mm/s	6.35 mm/s
Date	2022-07-25	2022-09-09	2022-07-25	2022-07-25
Time	12:00:00	08:00:00	14:00:00	14:00:00

Interval report

Project	SM Parramatta
Project maintainer	Rauf Osterman
Customer	Delta Group
Customer contact	Angus Lumsden (+61431501281)
Time frame	2022-06-01 00:00 - 2022-09-27 23:59 (Australia/Sydney)

NB!
Chart data is aggregated by 2 h

Measure point	MP_2
Location	25 Smith St - Level 6
Sensor type	V12
Serial no.	25110
Master(s) serial no.	2478
Latest calibration	2021-09-23
Standard	AS 2187.2-2006 250 mm/s 2-250Hz
Unit	mm/s
Quantity	Velocity
Interval time	2 min
Max	V: 1.30 mm/s, L: 0.40 mm/s, T: 0.25 mm/s



X-span	2022-06-01 00:00:00 - 2022-09-27 23:59:00
Y-span	V, L, T : mm/s: 0.0 - 2.0

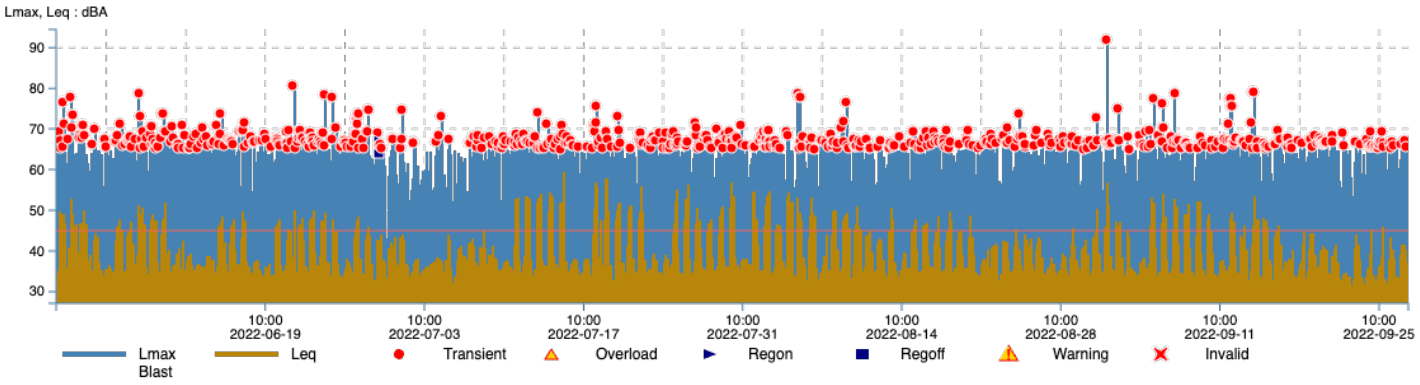
	V	L	T
Max	1.30 mm/s	0.40 mm/s	0.25 mm/s
Date	2022-07-20	2022-07-25	2022-07-22
Time	10:00:00	14:00:00	10:00:00

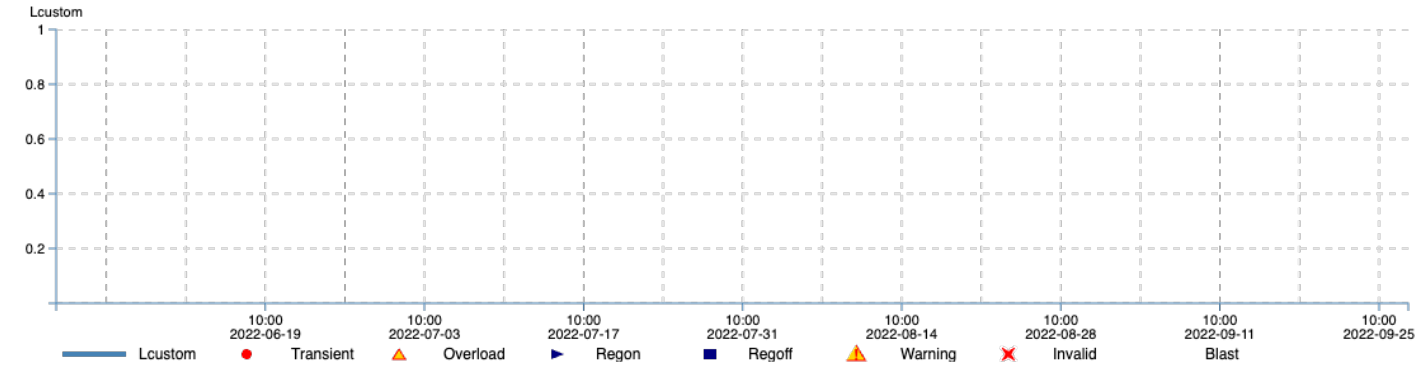
Interval report

Project	SM Parramatta
Project maintainer	Rauf Osterman
Customer	Delta Group
Customer contact	Angus Lumsden (+61431501281)
Time frame	2022-06-01 00:00 - 2022-09-27 23:59 (Australia/Sydney)

NB!
Chart data is aggregated by 2 h

Measure point	MP_3
Location	25 Smith St - Level 6
Sensor type	S50
Serial no.	10883
Master(s) serial no.	2478
Latest calibration	2021-09-21
Standard	Lmax + Leq 30-105 dBA Fast
Unit	dBA
Quantity	Sound Pres.Level, Eqv.Sound Pres.L
Interval time	15 min
Max	Lmax: 91.80 dBA, Leq: 59.30 dBA, Lcustom:





X-span	2022-06-01 00:00:00 - 2022-09-27 23:59:00
Y-span	Lmax, Leq : dBA: 27.17 - 94.44, Lcustom: 0.0 - 1.0

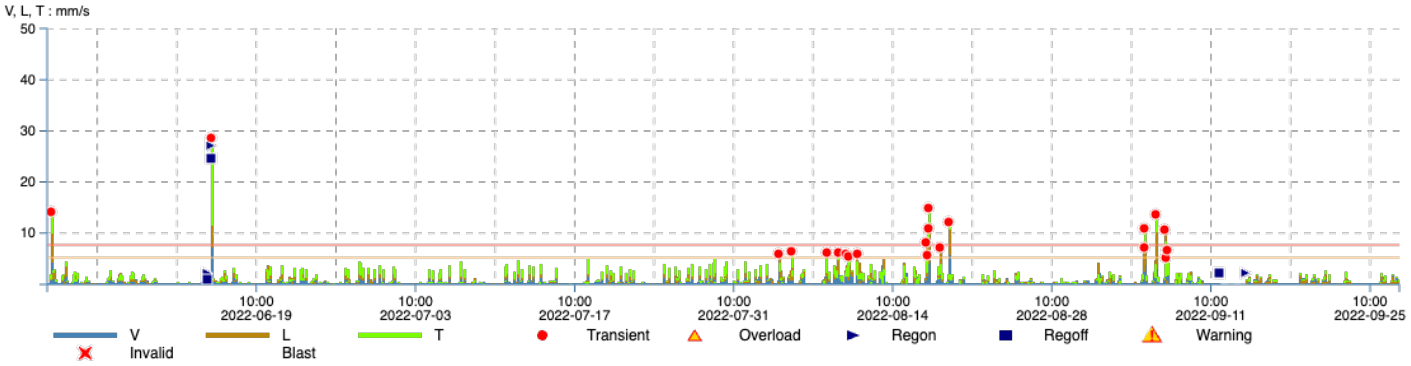
	Lmax	Leq	Lcustom
Max	91.80 dBA	59.30 dBA	-
Date	2022-09-01	2022-07-15	-
Time	12:00:00	14:00:00	-

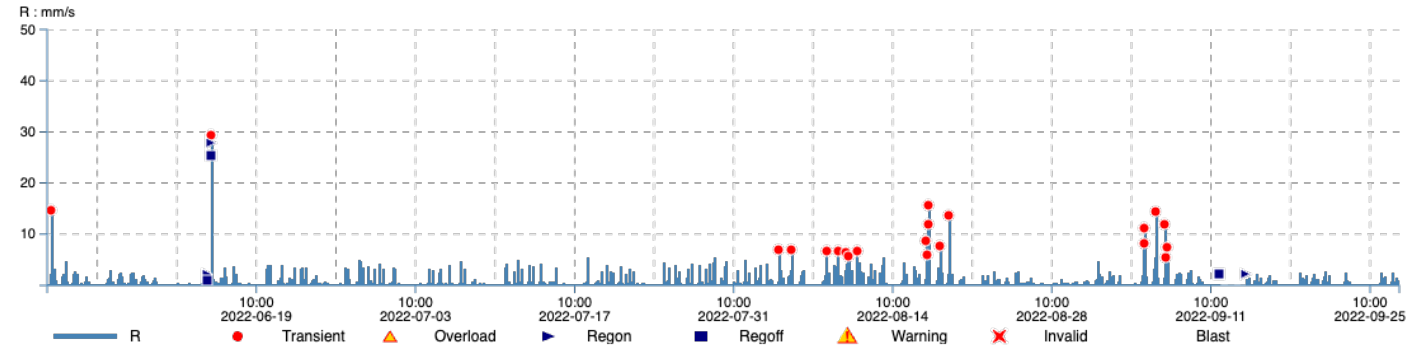
Interval report

Project	SM Parramatta
Project maintainer	Rauf Osterman
Customer	Delta Group
Customer contact	Angus Lumsden (+61431501281)
Time frame	2022-06-01 00:00 - 2022-09-27 23:59 (Australia/Sydney)

NB!
Chart data is aggregated by 2 h

Measure point	MP_4
Location	62-64 Macquarie St - East (Kia Ora Bldg)
Sensor type	C22
Serial no.	102365
Master(s) serial no.	102365
Latest calibration	2021-09-29
Standard	AS 2187.2-2006 250mm/s 2-250Hz
Unit	mm/s
Quantity	Velocity
Interval time	2 min
Max	V: 7.20 mm/s, L: 11.20 mm/s, T: 28.40 mm/s, R: 29.30 mm/s





X-span	2022-06-01 00:00:00 - 2022-09-27 23:59:00
Y-span	V, L, T : mm/s: 0.0 - 50.0, R : mm/s: 0.0 - 50.0

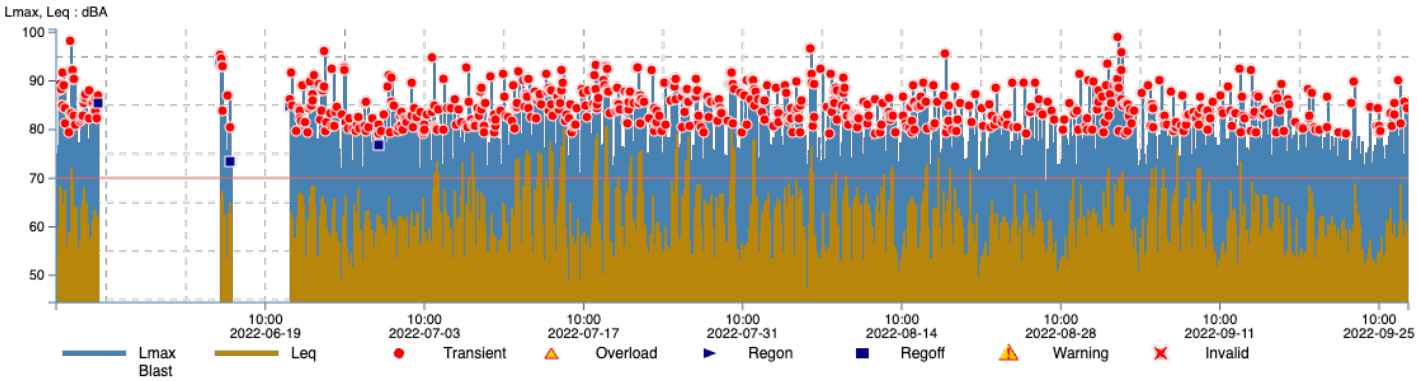
	V	L	T	R
Max	7.20 mm/s	11.20 mm/s	28.40 mm/s	29.30 mm/s
Date	2022-06-15	2022-06-15	2022-06-15	2022-06-15
Time	12:00:00	12:00:00	12:00:00	12:00:00

Interval report

Project	SM Parramatta
Project maintainer	Rauf Osterman
Customer	Delta Group
Customer contact	Angus Lumsden (+61431501281)
Time frame	2022-06-01 00:00 - 2022-09-27 23:59 (Australia/Sydney)

NB!
Chart data is aggregated by 2 h

Measure point	MP_5
Location	29 Smith St - L2 balcony
Sensor type	S50
Serial no.	10835
Master(s) serial no.	2329
Latest calibration	2021-09-21
Standard	Lmax + Leq 55-130 dBA Fast
Unit	dBA
Quantity	Sound Pres.Level, Eqv.Sound Pres.L
Interval time	15 min
dB Corr	-6 dB
Max	Lmax: 98.90 dBA, Leq: 80.70 dBA



X-span	2022-06-01 00:00:00 - 2022-09-27 23:59:00
Y-span	Lmax, Leq : dBA: 44.48 - 100.59

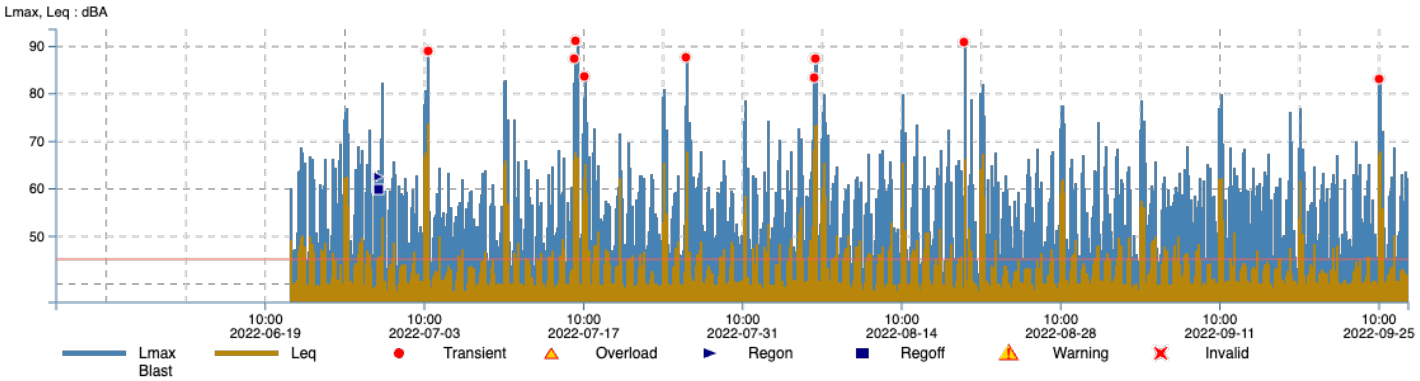
	Lmax	**Leq**
Max	98.90 dBA	80.70 dBA
Date	2022-09-02	2022-07-19
Time	12:00:00	10:00:00

Interval report

Project	SM Parramatta
Project maintainer	Rauf Osterman
Customer	Delta Group
Customer contact	Angus Lumsden (+61431501281)
Time frame	2022-06-01 00:00 - 2022-09-27 23:59 (Australia/Sydney)

NB!
Chart data is aggregated by 2 h

Measure point	MP_6
Location	119 Macquarie St (Leigh Memorial Church)
Sensor type	S50
Serial no.	10429, 10887
Master(s) serial no.	2666
Latest calibration	2021-05-03, 2022-02-10
Standard	Lmax + Leq 55-130 dBA Fast
Unit	dBA
Quantity	Sound Pres.Level, Eqv.Sound Pres.L
Interval time	15 min
dB Corr	-7 dB
Max	Lmax: 91.100 dBA, Leq: 73.80 dBA



X-span	2022-06-01 00:00:00 - 2022-09-27 23:59:00
Y-span	Lmax, Leq : dBA: 36.10 - 93.58

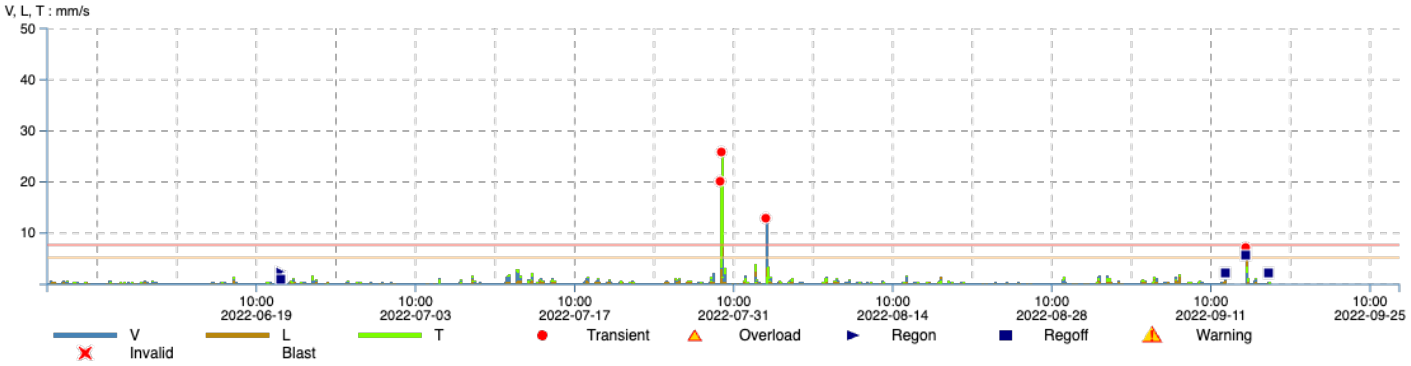
	Lmax	**Leq**
Max	91.100 dBA	73.80 dBA
Date	2022-07-16	2022-07-03
Time	20:00:00	18:00:00

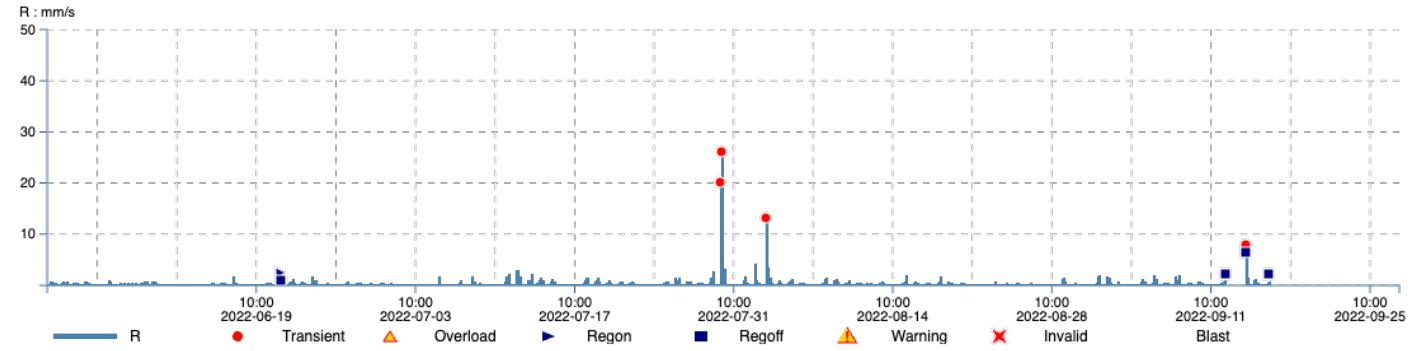
Interval report

Project	SM Parramatta
Project maintainer	Rauf Osterman
Customer	Delta Group
Customer contact	Angus Lumsden (+61431501281)
Time frame	2022-06-01 00:00 - 2022-09-27 23:59 (Australia/Sydney)

NB!
Chart data is aggregated by 2 h

Measure point	MP_7
Location	Roxy
Sensor type	C22
Serial no.	101604
Master(s) serial no.	101604
Latest calibration	2021-10-01
Standard	AS 2187.2-2006 250mm/s 2-250Hz
Unit	mm/s
Quantity	Velocity
Interval time	2 min
Max	V: 12.70 mm/s, L: 7.20 mm/s, T: 25.80 mm/s, R: 26.0 mm/s





X-span	2022-06-01 00:00:00 - 2022-09-27 23:59:00
Y-span	V, L, T : mm/s: 0.0 - 50.0, R : mm/s: 0.0 - 50.0

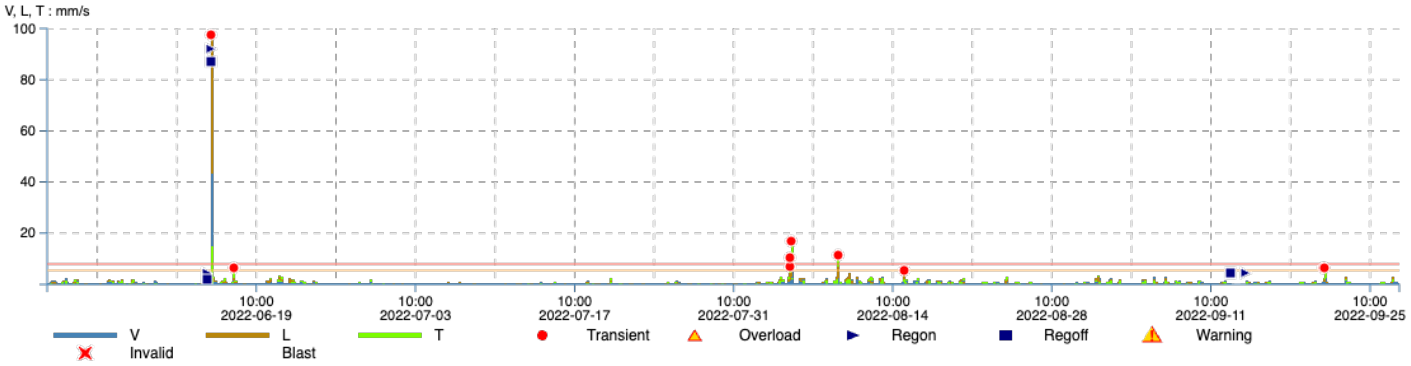
	V	L	T	R
Max	12.70 mm/s	7.20 mm/s	25.80 mm/s	26.0 mm/s
Date	2022-08-03	2022-09-14	2022-07-30	2022-07-30
Time	08:00:00	14:00:00	10:00:00	10:00:00

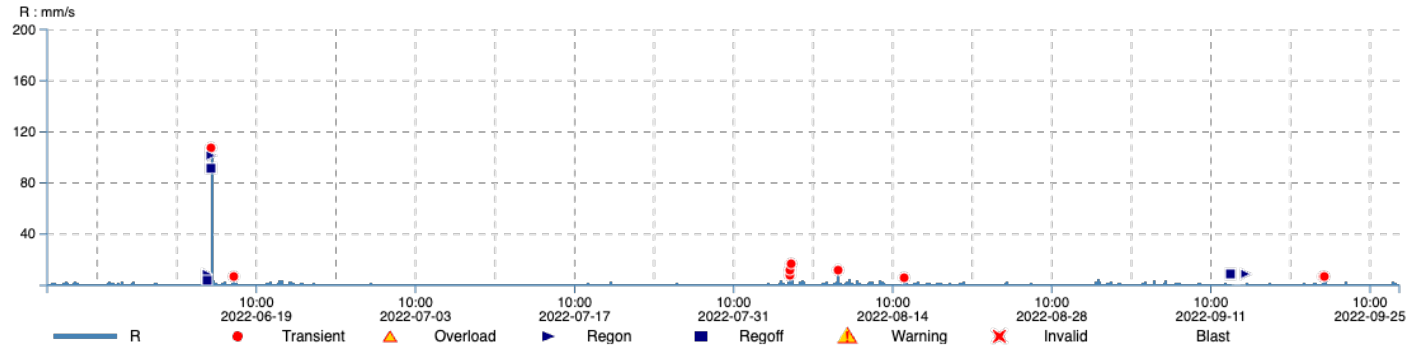
Interval report

Project	SM Parramatta
Project maintainer	Rauf Osterman
Customer	Delta Group
Customer contact	Angus Lumsden (+61431501281)
Time frame	2022-06-01 00:00 - 2022-09-27 23:59 (Australia/Sydney)

NB!
Chart data is aggregated by 2 h

Measure point	MP_8
Location	62-64 Macquarie St - West (Kia Ora Bldg)
Sensor type	C22
Serial no.	106838
Master(s) serial no.	106838
Latest calibration	2021-06-01
Standard	AS 2187.2-2006 250mm/s 2-250Hz
Unit	mm/s
Quantity	Velocity
Interval time	2 min
Max	V: 42.90 mm/s, L: 97.100 mm/s, T: 16.60 mm/s, R: 107.0 mm/s





X-span	2022-06-01 00:00:00 - 2022-09-27 23:59:00
Y-span	V, L, T : mm/s: 0.0 - 100.0, R : mm/s: 0.0 - 200.0

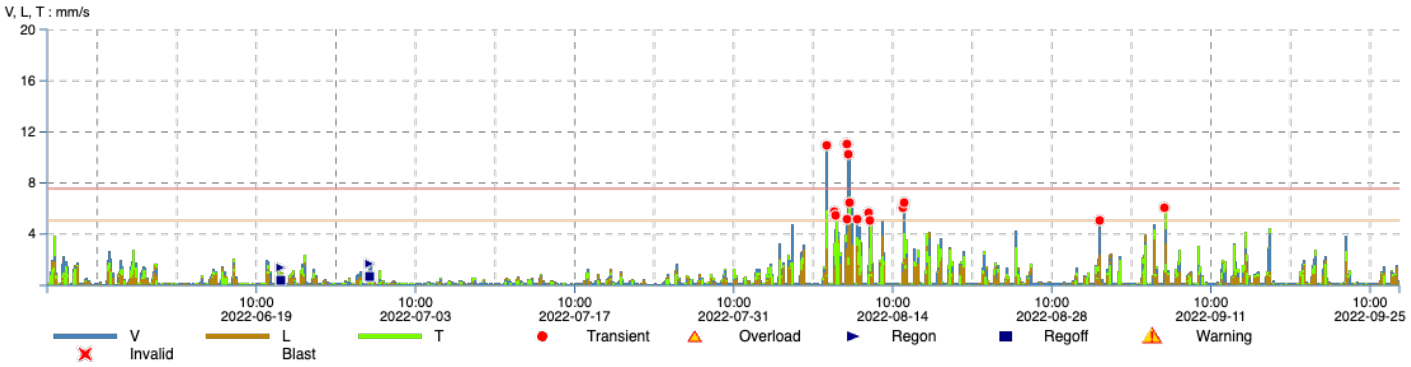
	V	L	T	R
Max	42.90 mm/s	97.100 mm/s	16.60 mm/s	107.0 mm/s
Date	2022-06-15	2022-06-15	2022-08-05	2022-06-15
Time	12:00:00	12:00:00	14:00:00	12:00:00

Interval report

Project	SM Parramatta
Project maintainer	Rauf Osterman
Customer	Delta Group
Customer contact	Angus Lumsden (+61431501281)
Time frame	2022-06-01 00:00 - 2022-09-27 23:59 (Australia/Sydney)

NB!
Chart data is aggregated by 2 h

Measure point	MP_9
Location	62-64 Macquarie St - North (Kia Ora Bldg)
Sensor type	V12
Serial no.	21760
Master(s) serial no.	2328, 7724
Latest calibration	2021-09-21
Standard	AS 2187.2-2006 250 mm/s 2-250Hz
Unit	mm/s
Quantity	Velocity
Interval time	2 min
Max	V: 10.90 mm/s, L: 4.70 mm/s, T: 11.0 mm/s



X-span	2022-06-01 00:00:00 - 2022-09-27 23:59:00
Y-span	V, L, T : mm/s: 0.0 - 20.0

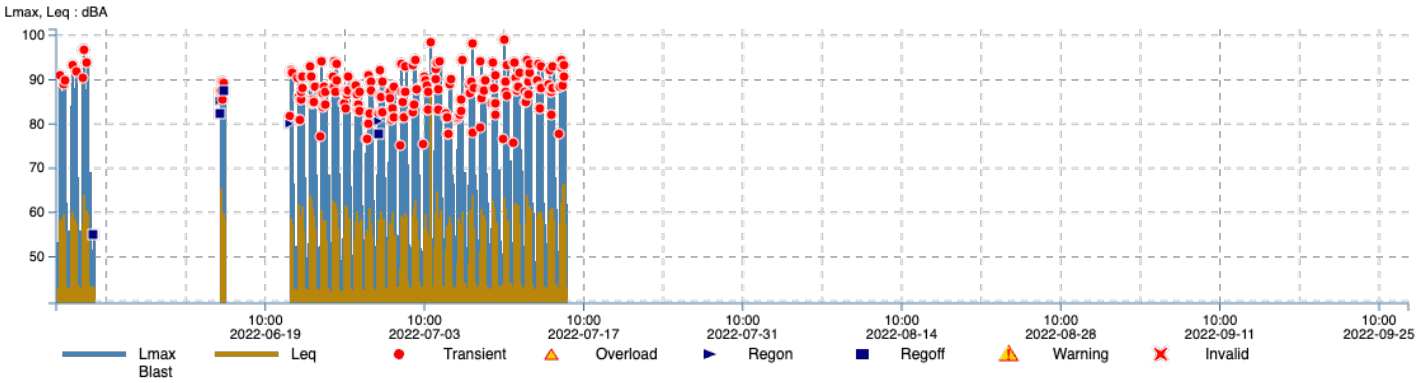
	V	L	T
Max	10.90 mm/s	4.70 mm/s	11.0 mm/s
Date	2022-08-08	2022-08-10	2022-08-10
Time	16:00:00	14:00:00	10:00:00

Interval report

Project	SM Parramatta
Project maintainer	Rauf Osterman
Customer	Delta Group
Customer contact	Angus Lumsden (+61431501281)
Time frame	2022-06-01 00:00 - 2022-09-27 23:59 (Australia/Sydney)

NB!
Chart data is aggregated by 2 h

Measure point	MP_10
Location	240 Church St
Sensor type	S50
Serial no.	11103
Master(s) serial no.	2480, 7725
Latest calibration	2020-10-30
Standard	Lmax + Leq 40-115 dBA Fast
Unit	dBA
Quantity	Sound Pres.Level, Eqv.Sound Pres.L
Interval time	15 min
Max	Lmax: 98.80 dBA, Leq: 86.50 dBA



X-span	2022-06-01 00:00:00 - 2022-09-27 23:59:00
Y-span	Lmax, Leq : dBA: 39.46 - 101.37

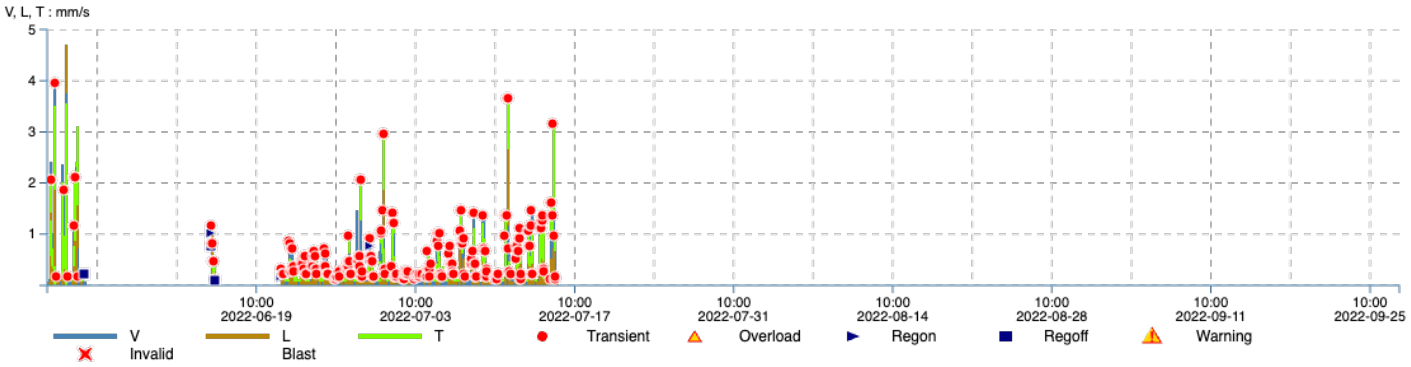
	Lmax	**Leq**
Max	98.80 dBA	86.50 dBA
Date	2022-07-10	2022-07-04
Time	12:00:00	00:00:00

Interval report

Project	SM Parramatta
Project maintainer	Rauf Osterman
Customer	Delta Group
Customer contact	Angus Lumsden (+61431501281)
Time frame	2022-06-01 00:00 - 2022-09-27 23:59 (Australia/Sydney)

NB!
Chart data is aggregated by 2 h

Measure point	MP_11
Location	240 Church St
Sensor type	V12
Serial no.	26270
Master(s) serial no.	2480, 7725
Latest calibration	2021-09-21
Standard	AS 2187.2-2006 250 mm/s 2-250Hz
Unit	mm/s
Quantity	Velocity
Interval time	2 min
Max	V: 3.95 mm/s, L: 4.70 mm/s, T: 3.65 mm/s



X-span	2022-06-01 00:00:00 - 2022-09-27 23:59:00
Y-span	V, L, T : mm/s: 0.0 - 5.0

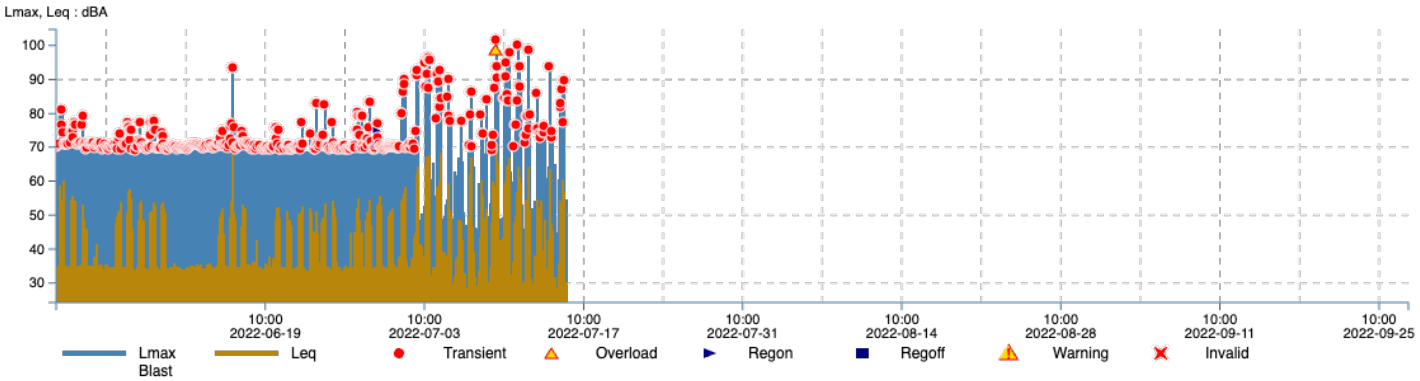
	V	L	T
Max	3.95 mm/s	4.70 mm/s	3.65 mm/s
Date	2022-06-01	2022-06-02	2022-07-11
Time	18:00:00	16:00:00	14:00:00

Interval report

Project	SM Parramatta
Project maintainer	Rauf Osterman
Customer	Delta Group
Customer contact	Angus Lumsden (+61431501281)
Time frame	2022-06-01 00:00 - 2022-09-27 23:59 (Australia/Sydney)

NB!
Chart data is aggregated by 2 h

Measure point	MP_12
Location	216-218 Church st
Sensor type	S50
Serial no.	10439
Master(s) serial no.	2332
Latest calibration	2022-02-13
Standard	Lmax + Leq 40-115 dBA Fast
Unit	dBA
Quantity	Sound Pres.Level, Eqv.Sound Pres.L
Interval time	15 min
dB Corr	-6 dB
Max	Lmax: 101.50 dBA, Leq: 71.20 dBA



X-span	2022-06-01 00:00:00 - 2022-09-27 23:59:00
Y-span	Lmax, Leq : dBA: 24.27 - 104.76

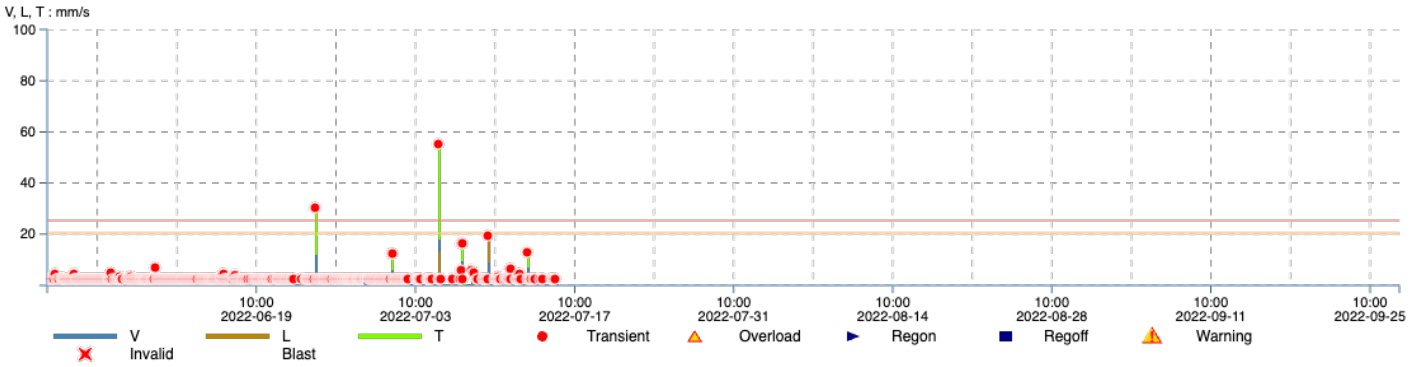
	Lmax	**Leq**
Max	101.50 dBA	71.20 dBA
Date	2022-07-09	2022-07-09
Time	18:00:00	18:00:00

Interval report

Project	SM Parramatta
Project maintainer	Rauf Osterman
Customer	Delta Group
Customer contact	Angus Lumsden (+61431501281)
Time frame	2022-06-01 00:00 - 2022-09-27 23:59 (Australia/Sydney)

NB!
Chart data is aggregated by 2 h

Measure point	MP_13
Location	216-218 Church St
Sensor type	V12
Serial no.	25760
Master(s) serial no.	2332
Latest calibration	2019-08-08
Standard	AS 2187.2-2006 250 mm/s 2-250Hz
Unit	mm/s
Quantity	Velocity
Interval time	2 min
Max	V: 17.60 mm/s, L: 19.0 mm/s, T: 55.10 mm/s



X-span	2022-06-01 00:00:00 - 2022-09-27 23:59:00
Y-span	V, L, T : mm/s: 0.0 - 100.0

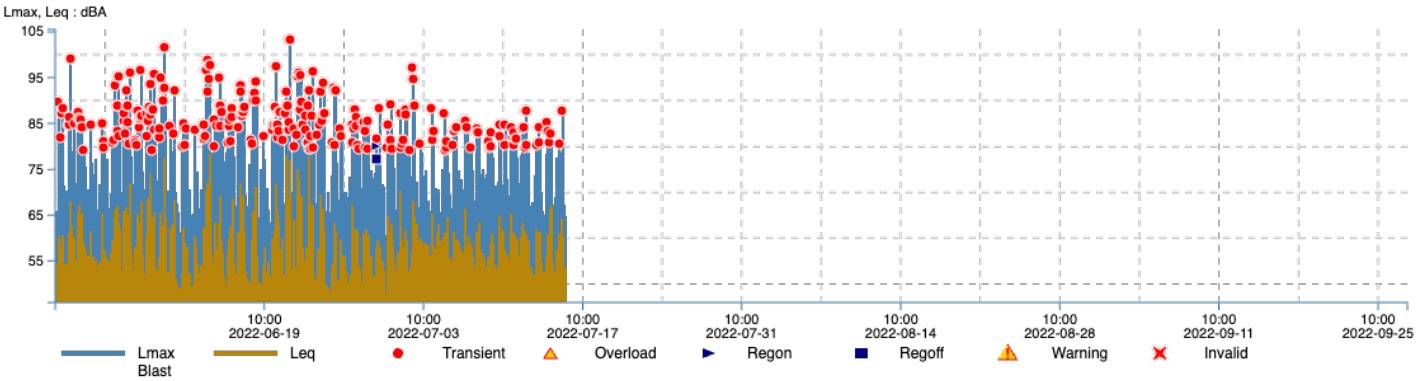
	V	L	T
Max	17.60 mm/s	19.0 mm/s	55.10 mm/s
Date	2022-07-05	2022-07-09	2022-07-05
Time	12:00:00	22:00:00	12:00:00

Interval report

Project	SM Parramatta
Project maintainer	Rauf Osterman
Customer	Delta Group
Customer contact	Angus Lumsden (+61431501281)
Time frame	2022-06-01 00:00 - 2022-09-27 23:59 (Australia/Sydney)

NB!
Chart data is aggregated by 2 h

Measure point	MP_14
Location	211 Church St
Sensor type	S50
Serial no.	9923
Master(s) serial no.	2255
Latest calibration	2022-02-10
Standard	Lmax + Leq 55-130 dBA Fast
Unit	dBA
Quantity	Sound Pres.Level, Eqv.Sound Pres.L
Interval time	15 min
dB Corr	-6 dB
Max	Lmax: 103.20 dBA, Leq: 78.30 dBA



X-span	2022-06-01 00:00:00 - 2022-09-27 23:59:00
Y-span	Lmax, Leq : dBA: 45.96 - 105.53

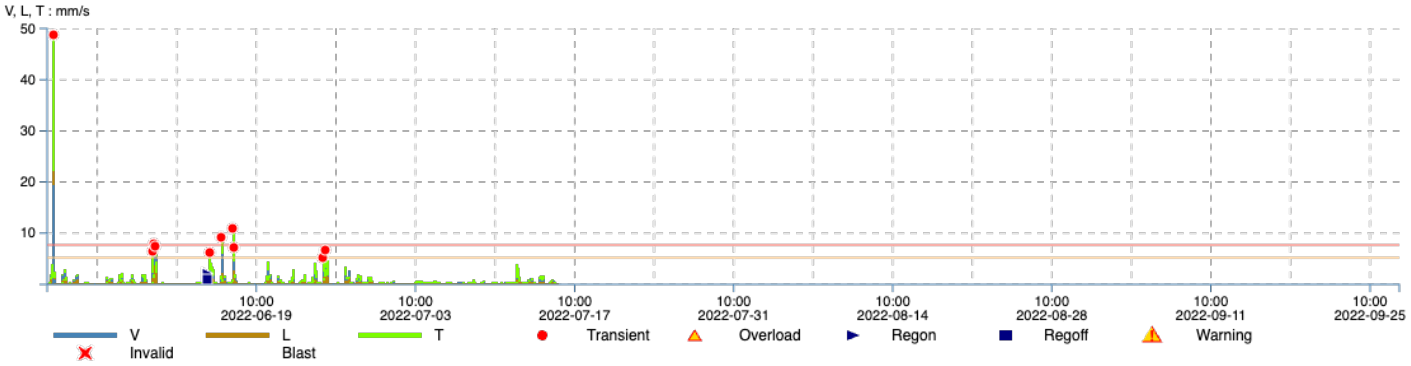
	Lmax	**Leq**
Max	103.20 dBA	78.30 dBA
Date	2022-06-21	2022-06-14
Time	18:00:00	16:00:00

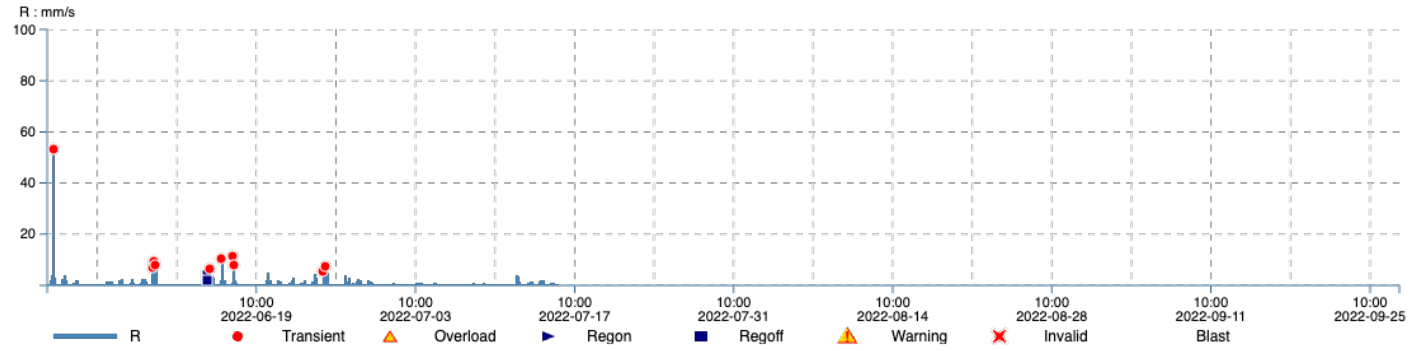
Interval report

Project	SM Parramatta
Project maintainer	Rauf Osterman
Customer	Delta Group
Customer contact	Angus Lumsden (+61431501281)
Time frame	2022-06-01 00:00 - 2022-09-27 23:59 (Australia/Sydney)

NB!
Chart data is aggregated by 2 h

Measure point	MP_15
Location	43-47 George St - East Facade
Sensor type	C22
Serial no.	107549
Master(s) serial no.	107549
Latest calibration	2021-09-19
Standard	AS 2187.2-2006 250mm/s 2-250Hz
Unit	mm/s
Quantity	Velocity
Interval time	2 min
Max	V: 19.30 mm/s, L: 22.10 mm/s, T: 49.30 mm/s, R: 52.90 mm/s





X-span	2022-06-01 00:00:00 - 2022-09-27 23:59:00
Y-span	V, L, T : mm/s: 0.0 - 50.0, R : mm/s: 0.0 - 100.0

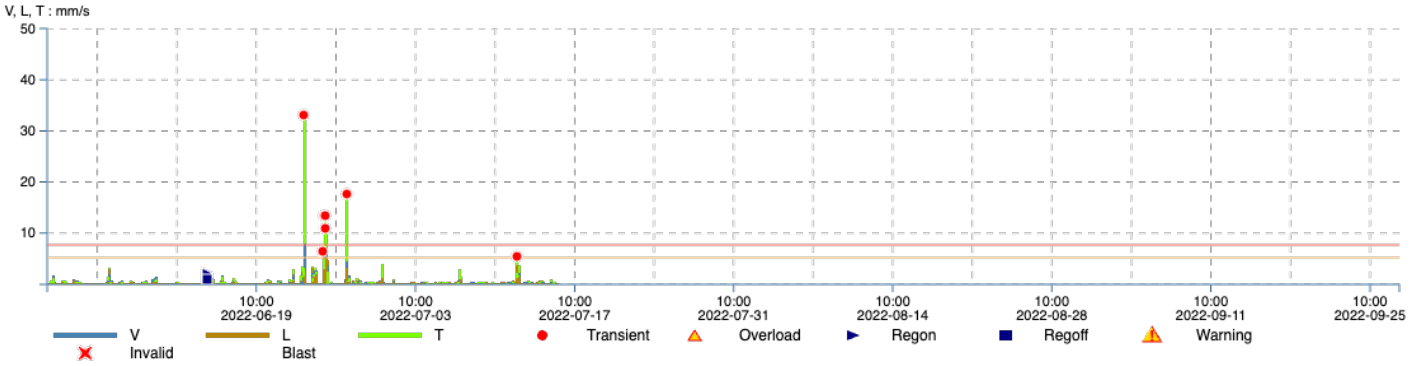
	V	L	T	R
Max	19.30 mm/s	22.10 mm/s	49.30 mm/s	52.90 mm/s
Date	2022-06-01	2022-06-01	2022-06-01	2022-06-01
Time	14:00:00	14:00:00	14:00:00	14:00:00

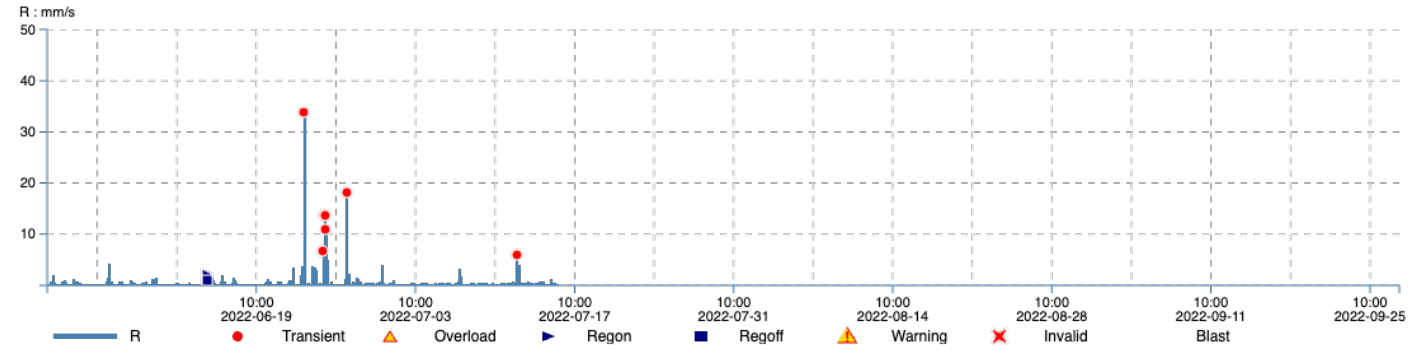
Interval report

Project	SM Parramatta
Project maintainer	Rauf Osterman
Customer	Delta Group
Customer contact	Angus Lumsden (+61431501281)
Time frame	2022-06-01 00:00 - 2022-09-27 23:59 (Australia/Sydney)

NB!
Chart data is aggregated by 2 h

Measure point	MP_16
Location	43-47 George St - West Facade
Sensor type	C22
Serial no.	107553
Master(s) serial no.	107553
Latest calibration	2021-09-25
Standard	AS 2187.2-2006 250mm/s 2-250Hz
Unit	mm/s
Quantity	Velocity
Interval time	2 min
Max	V: 7.85 mm/s, L: 5.20 mm/s, T: 33.0 mm/s, R: 33.70 mm/s





X-span	2022-06-01 00:00:00 - 2022-09-27 23:59:00
Y-span	V, L, T : mm/s: 0.0 - 50.0, R : mm/s: 0.0 - 50.0

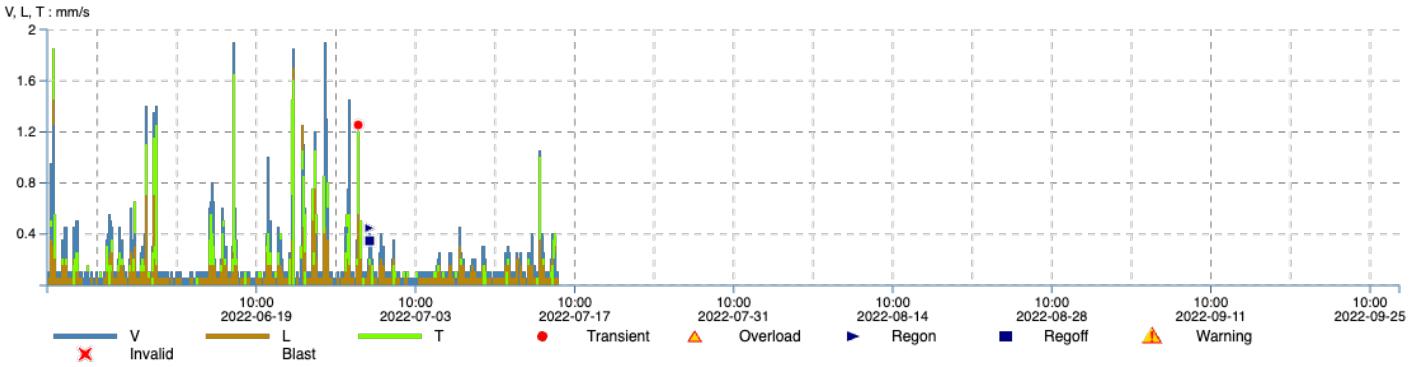
	V	L	T	R
Max	7.85 mm/s	5.20 mm/s	33.0 mm/s	33.70 mm/s
Date	2022-06-23	2022-06-25	2022-06-23	2022-06-23
Time	16:00:00	14:00:00	16:00:00	16:00:00

Interval report

Project	SM Parramatta
Project maintainer	Rauf Osterman
Customer	Delta Group
Customer contact	Angus Lumsden (+61431501281)
Time frame	2022-06-01 00:00 - 2022-09-27 23:59 (Australia/Sydney)

NB!
Chart data is aggregated by 2 h

Measure point	MP_17
Location	IGA 37-39 George St
Sensor type	V12
Serial no.	25910
Master(s) serial no.	2477
Latest calibration	2020-10-23
Standard	AS 2187.2-2006 250 mm/s 2-250Hz
Unit	mm/s
Quantity	Velocity
Interval time	2 min
Max	V: 1.90 mm/s, L: 1.70 mm/s, T: 1.90 mm/s



X-span	2022-06-01 00:00:00 - 2022-09-27 23:59:00
Y-span	V, L, T : mm/s: 0.0 - 2.0

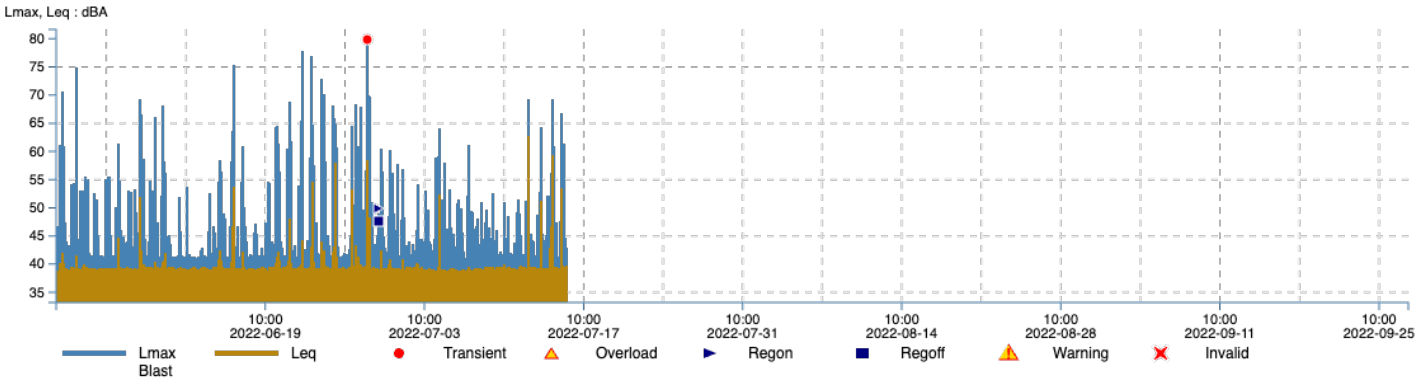
	V	L	T
Max	1.90 mm/s	1.70 mm/s	1.90 mm/s
Date	2022-06-17	2022-06-22	2022-06-25
Time	10:00:00	16:00:00	12:00:00

Interval report

Project	SM Parramatta
Project maintainer	Rauf Osterman
Customer	Delta Group
Customer contact	Angus Lumsden (+61431501281)
Time frame	2022-06-01 00:00 - 2022-09-27 23:59 (Australia/Sydney)

NB!
Chart data is aggregated by 2 h

Measure point	MP_18
Location	IGA 37-39 George st
Sensor type	S50
Serial no.	10786
Master(s) serial no.	2477
Latest calibration	2022-02-10
Standard	Lmax + Leq 40-115 dBA Fast
Unit	dBA
Quantity	Sound Pres.Level, Eqv.Sound Pres.L
Interval time	15 min
dB Corr	-6 dB
Max	Lmax: 79.70 dBA, Leq: 62.50 dBA



X-span	2022-06-01 00:00:00 - 2022-09-27 23:59:00
Y-span	Lmax, Leq : dBA: 33.20 - 81.65

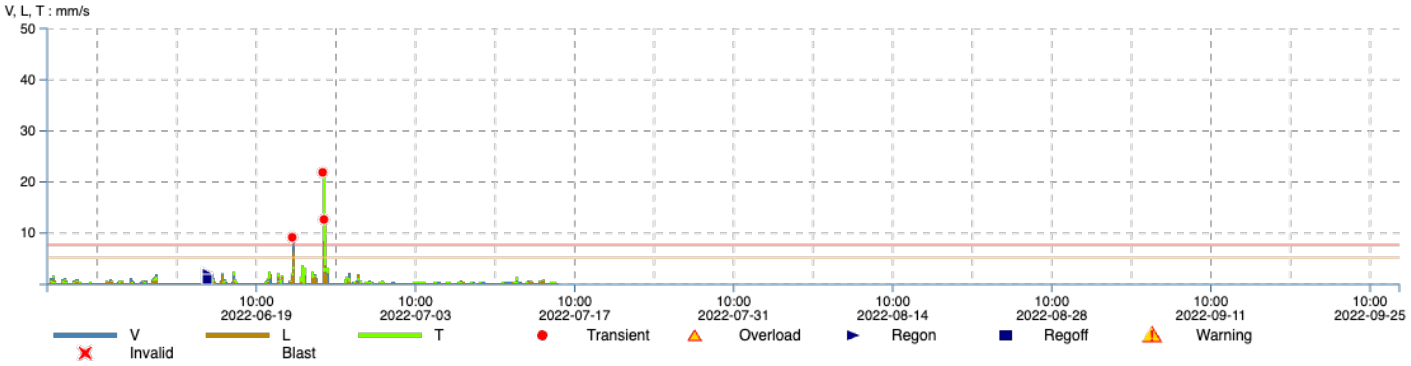
	Lmax	**Leq**
Max	79.70 dBA	62.50 dBA
Date	2022-06-28	2022-07-12
Time	10:00:00	14:00:00

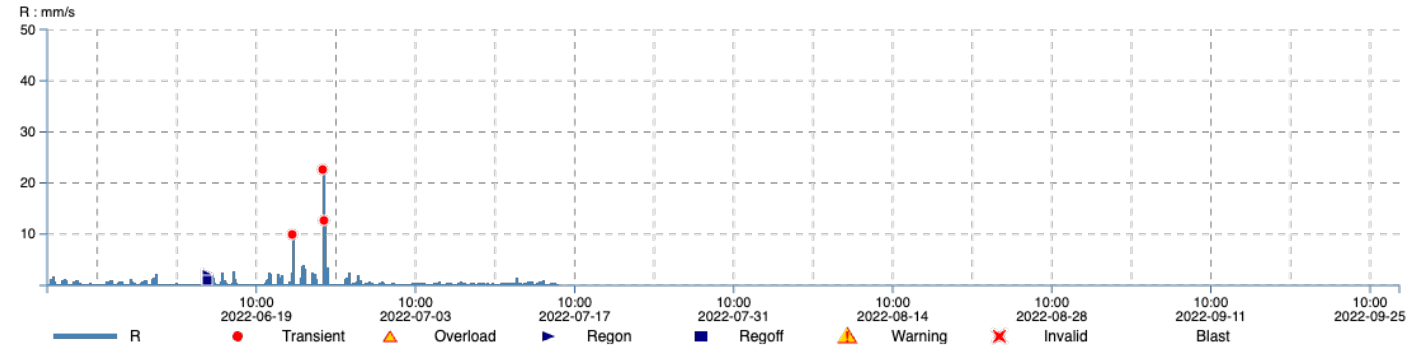
Interval report

Project	SM Parramatta
Project maintainer	Rauf Osterman
Customer	Delta Group
Customer contact	Angus Lumsden (+61431501281)
Time frame	2022-06-01 00:00 - 2022-09-27 23:59 (Australia/Sydney)

NB!
Chart data is aggregated by 2 h

Measure point	MP_19
Location	43-47 George St - South Facade
Sensor type	C22
Serial no.	107554
Master(s) serial no.	107554
Latest calibration	2021-09-25
Standard	AS 2187.2-2006 250mm/s 2-250Hz
Unit	mm/s
Quantity	Velocity
Interval time	2 min
Max	V: 8.35 mm/s, L: 7.40 mm/s, T: 21.80 mm/s, R: 22.50 mm/s





X-span	2022-06-01 00:00:00 - 2022-09-27 23:59:00
Y-span	V, L, T : mm/s: 0.0 - 50.0, R : mm/s: 0.0 - 50.0

	V	L	T	R
Max	8.35 mm/s	7.40 mm/s	21.80 mm/s	22.50 mm/s
Date	2022-06-25	2022-06-25	2022-06-25	2022-06-25
Time	10:00:00	10:00:00	10:00:00	10:00:00