ACOUSTICS AND AIR

321 CONDAMINE STREET MANLY VALE
MIXED USE DEVELOPMENT

DA NOISE ASSESSMENT

REPORT NO. 20069
VERSION A

JUNE 2020

PREPARED FOR

CITE GROUP
SUITE 2, LEVEL 14 99 BATHURST STREET
SYDNEY NSW 2000

WILKINSON MURRAY

DOCUMENT CONTROL

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GLOSSARY OF ACOUSTIC TERMS

Most environments are affected by environmental noise which continuously varies, largely as a result of road traffic. To describe the overall noise environment, a number of noise descriptors have been developed and these involve statistical and other analysis of the varying noise over sampling periods, typically taken as 15 minutes. These descriptors, which are demonstrated in the graph below, are here defined.

Maximum Noise Level (L_{Amax}) – The maximum noise level over a sample period is the maximum level, measured on fast response, during the sample period.

L_{A1} – The L_{A1} level is the noise level which is exceeded for 1% of the sample period. During the sample period, the noise level is below the L_{A1} level for 99% of the time.

L_{A10} – The L_{A10} level is the noise level which is exceeded for 10% of the sample period. During the sample period, the noise level is below the L_{A10} level for 90% of the time. The L_{A10} is a common noise descriptor for environmental noise and road traffic noise.

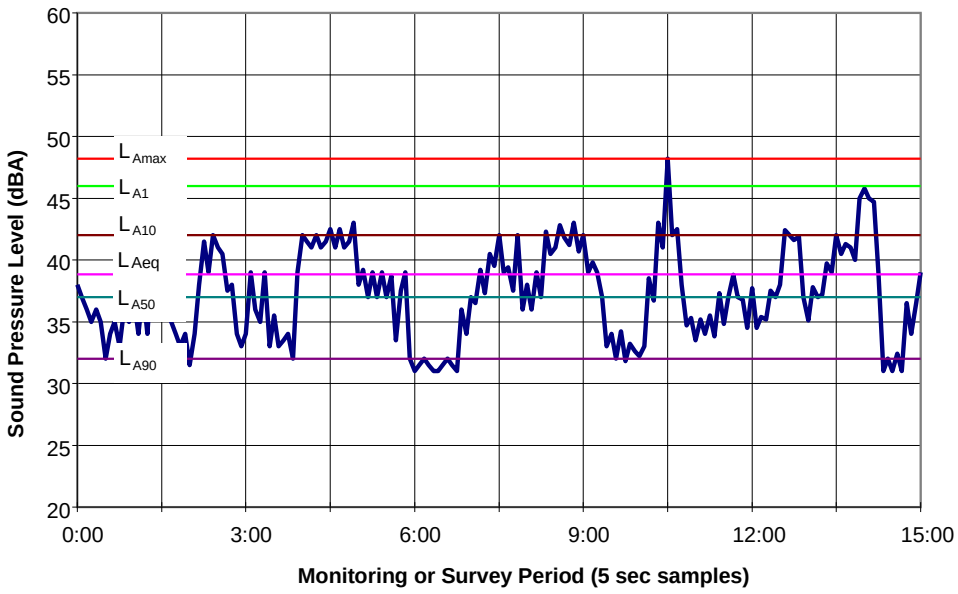
L_{A90} – The L_{A90} level is the noise level which is exceeded for 90% of the sample period. During the sample period, the noise level is below the L_{A90} level for 10% of the time. This measure is commonly referred to as the background noise level.

L_{Aeq} – The equivalent continuous sound level (L_{Aeq}) is the energy average of the varying noise over the sample period and is equivalent to the level of a constant noise which contains the same energy as the varying noise environment. This measure is also a common measure of environmental noise and road traffic noise.

ABL – The Assessment Background Level is the single figure background level representing each assessment period (daytime, evening and night time) for each day. It is determined by calculating the 10th percentile (lowest 10th percent) background level (L_{A90}) for each period.

RBL – The Rating Background Level for each period is the median value of the ABL values for the period over all of the days measured. There is therefore an RBL value for each period – daytime, evening and night time.

Typical Graph of Sound Pressure Level vs Time



1 INTRODUCTION

Wilkinson Murray has been engaged by MANLY VALE DEVELOPMENTS NO 2 PTY LTD to conduct a Development Application noise assessment of the proposed mixed-use development at 321 Condamine Street Manly Vale. The site is currently occupied by retail premises.

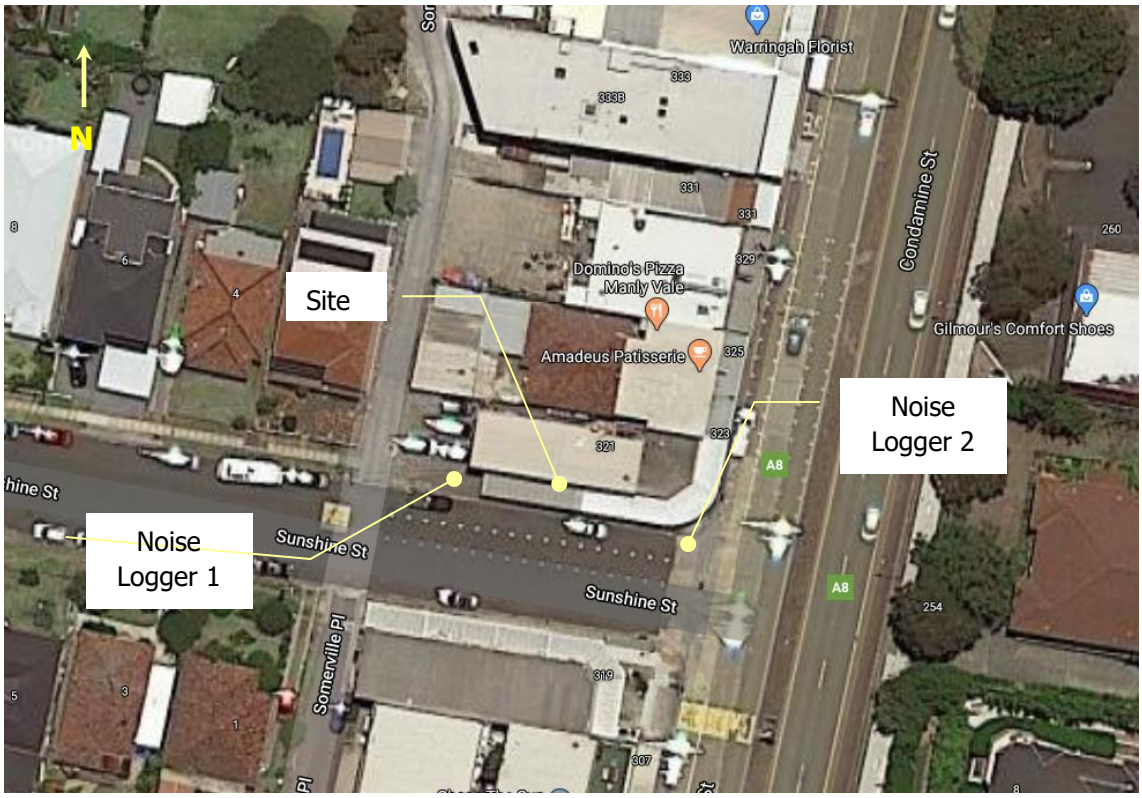
The scope of the noise assessment involves:

- Ambient Noise Measurements,
- Control of traffic noise at future residences on Condamine Street
- Review of Mechanical Services Noise Emission, and;
- Review of internal Acoustic Amenity of future residents of the development.

The following sections of this assessment detail the methodology, assessment criteria, results and acoustical recommendations.

Figure 2-1 shows the site and surrounding environs.

Figure 2-1 Site Location



The site is bounded by;

- Retail properties on Condamine to the north and south of the site.
- Residences to the West of the site on Sunshine Street.

- Apartments to the east across Condamine Street.

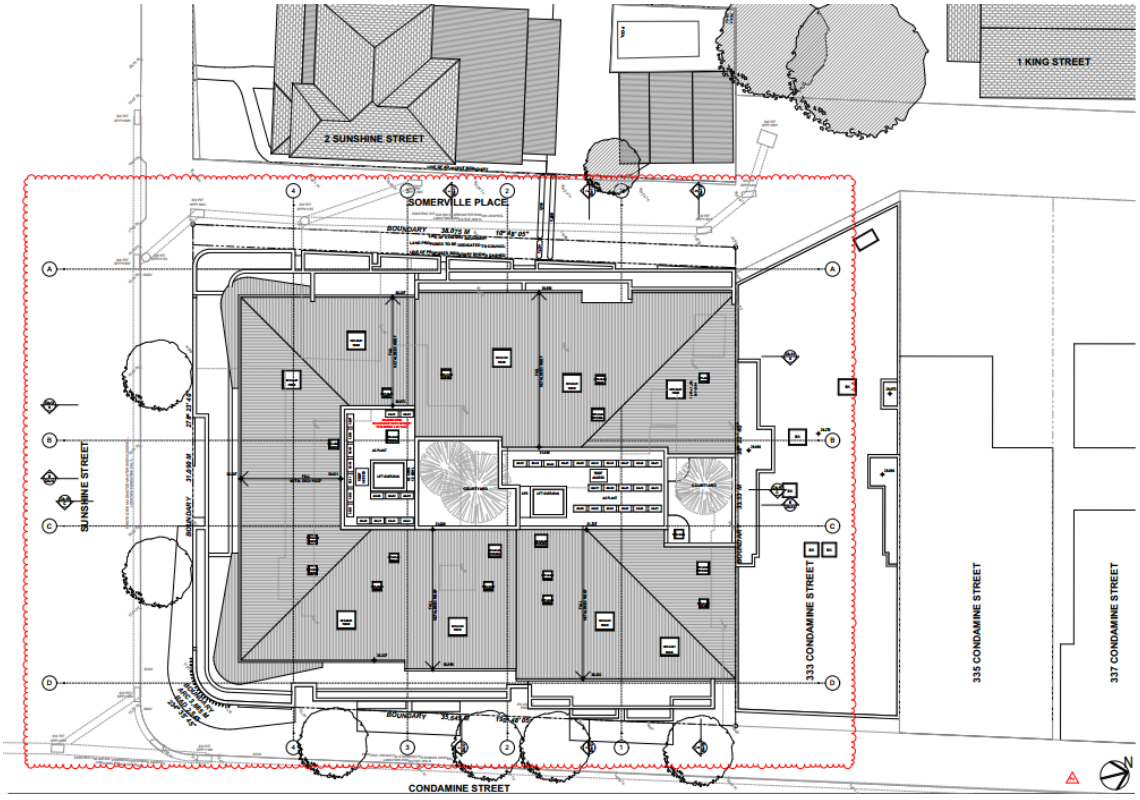
2 SITE DESCRIPTION AND PROPOSAL

The site is located in a commercial area at 321 Condamine Street North Manly. The proposed development consists of:

- 2 levels of Lower Ground carpark;
- Ground Level retail tenancy,
- Level 1 with 12 residential apartments,
- Level 2 with 12 residential apartments and.
- Level 3 with 9 residential apartments,

The layout of the design is shown in Appendix B. The development is shown on Figure 2 1.

Figure 2-1 Proposed Development Site Plan



The use of the retail area is unknown at this stage. However the use of this area will be the subject of future Development Applications by the end user of these tenancy.

3 AMBIENT NOISE LEVELS AND NOISE CRITERIA

3.1 Council Requirements

Northern Beaches council utilises the Warringah Council DCP 2011 states the following with respect to noise in Section D3.

D3 Noise

Applies to Land

This control applies to land to which Warringah Local Environmental Plan 2011 applies.

Objectives

- To encourage innovative design solutions to improve the urban environment.
- To ensure that noise emission does not unreasonably diminish the amenity of the area or result in noise intrusion which would be unreasonable for occupants, users or visitors.

Requirements

1. Noise from combined operation of all mechanical plant and equipment must not generate noise levels that exceed the ambient background noise by more than 5dB(A) when measured in accordance with the NSW Industrial Noise Policy at the receiving boundary of residential and other noise sensitive land uses.

See also NSW Industrial Noise Policy Appendices

2. Development near existing noise generating activities, such as industry and roads, is to be designed to mitigate the effect of that noise.
3. Waste collection and delivery vehicles are not to operate in the vicinity of residential uses between 10pm and 6am.
4. Where possible, locate noise sensitive rooms such as bedrooms and private open space away from noise sources. For example, locate kitchens or service areas closer to busy road frontages and bedrooms away from road frontages.
5. Where possible, locate noise sources away from the bedroom areas of adjoining dwellings/properties to minimise impact.

The above objectives have been considered in developing site specific noise criteria for this development.

3.2 Existing Ambient Noise Levels

Unattended noise monitoring was conducted at 2 locations considered representative of noise on the site as follows

Logger Location 1

Noise measurements were conducted in 2016 at the rear of the site between 14th and 24th February 2020.

Logger Location 2

Noise measurements were at the front of the site on Condamine Street and is considered representative of traffic noise levels at future residences– this data is to be used to assess the facade. Measurements were conducted between n 14th and 24th February 2020.

Monitoring was conducted using an ARL EL 215 and a ARL Ngara noise logger set to A-weighted, fast response, continuously monitoring each 15-minute period. This equipment is capable of monitoring and storing noise various level descriptors for later detailed analysis. From the background noise levels (L_{A90}) the Rating Background Levels (RBL's) were determined using methodology as recommended by the INP. The EPA considers the RBLs to represent the background noise level. The equipment calibration was checked before and after the survey and no significant drift was noted.

Table 3-1 and 3-2 and summarises the results, for daytime, evening and night time periods as defined in the INP. The summary values are:

Table 3-1 Measured Ambient Noise Levels (Logger 1) rear of the 321 Condamine Street- dBA

Time Period	Noise Levels (dBA)	
	$L_{Aeq,(period)}$	RBL (Background)
Daytime (7 am to 6 pm)	69	48
Evening (6 pm to 10 pm)	56	45
Night Time (10 pm to 7 am)	53	38

Table 3-2 Measured Ambient Noise Levels Eastern Façade of the site (Logger 2) dBA

Time Period	Noise Levels (dBA)	
	$L_{Aeq,(period)}$	RBL (Background)
Daytime (7 am to 6 pm)	72	61
Evening (6 pm to 10 pm)	71	52
Night Time (10 pm to 7 am)	67	36

The two descriptors are defined below:

- **$L_{Aeq,Period}$** – The overall L_{Aeq} noise level measured over the assessment period; and,
- **RBL** – Rating Background Level is a measure of typical background noise levels which are used in determining noise criteria.

Results of noise logging are presented in Appendix A.

In addition traffic noise descriptors for the day and night periods were processed for the eastern noise logger facing Condamine Street as follows:

- L_{Aeq} Daytime (7am to 10 pm) 71 dBA

- L_{Aeq} Night time (10 pm to 7am) 65 dBA

3.3 Traffic Noise Criteria

The site is subject to the requirements of the NSW State Environmental Planning Policy (Infrastructure) 2007 – (iSEPP) which requires assessment for traffic noise intrusion when an adjacent road has more than 40,000 vehicles on an average day

Clauses 102 are relevant this project and are reproduced below:

102 Impact of road noise or vibration on non-road development

(1) This clause applies to development for any of the following purposes that is on land in or adjacent to a road corridor for a freeway, a tollway or a transitway or any other road with an annual average daily traffic volume of more than 40,000 vehicles (based on the traffic volume data published on the website of the RTA) and that the consent authority considers is likely to be adversely affected by road noise or vibration:

(a) a building for residential use,

(b) a place of public worship,

(c) a hospital,

(d) an educational establishment or child care centre.

The noise criteria relevant is summarised below:

(3) If the development is for the purposes of a building for residential use, the consent authority must not grant consent to the development unless it is satisfied that appropriate measures will be taken to ensure that the following L_{Aeq} levels are not exceeded:

(a) in any bedroom in the building – 35 dB(A) at any time between 10pm and 7am,

(b) Anywhere else in the building (other than a garage, kitchen, bathroom or hallway) – 40 dB(A) at any time.

The Interim Guideline 2008 that has been prepared by the NSW Department of Planning also provides additional information regarding the above noise criteria. In particular it clarifies the parameter to be used for day and night. During the night an $L_{Aeq(9hr)}$ is to be used and for the day $L_{Aeq(15hr)}$.

Therefore assessment is based on the above requirements with respect the day and night periods of the Interim Guideline 2008.

3.4 Site Noise Emission Noise Criteria

Table 3-3 presents the relevant intrusiveness noise criteria for this assessment based on logger 1 background noise levels.

Table 3-3 Intrusiveness Noise Criteria – All Sources

Time Period[1]	RBL	Intrusiveness Criterion $L_{Aeq,15min}$
Daytime	48	53
Evening	45	50
Night Time	38	43

Note: 1) Daytime 7.00am–6.00am; Evening 6.00pm–10.00pm; Night 10.00pm-7.00am

4 ASSESSMENT

4.1 Traffic Noise

The proposed development will not generate significant traffic volumes. Therefore no appreciable increase in traffic noise is predicted at surrounding residences.

In the case of traffic noise intrusion into future apartments calculations of internal traffic noise levels at apartments have been conducted.

Preliminary internal traffic noise calculations indicate that the following glazing that is above standard glazing (typically 6 mm float glass) will be required

- Type A - Rw 31 - 6.38 mm Laminated Glass
- Type B - Rw 35 - 10.38 mm Laminated Glass
- Type C - Rw 38 - 10.5 mm V Lam Hush Laminated Acoustic Glass
- Type D - Winter Garden effectively Double Glazing
- Type S – Rw 28 – 6 mm Float Glass

The following table details recommended façade constructions to control traffic noise ingress to the apartments.

Table 4-1 Recommended Glazing for areas where improved glazing is required.

Level	Unit	Living	Bed 1	Bed 2
1				
	6	S	S	S
	7	D	B	
	8	C	C	A
	9	D	B	B
	10	B	D	
	11	D	B	B
	12	D	B	B
2				
	18	S	S	S
	19	D	B	
	20	C	C	A
	21	D	B	B
	22	B	D	
	23	D	B	B
	24	D	B	B

Level	Unit	Living	Bed 1	Bed 2
3				
	29	S	B	B
	30	C	B	A
	31	B	B	Glass Blocks
	32	B	B	n/a
	33	B	B	Glass Blocks

- Note: Where there is no entry in the table then standard glazing is acceptable

In the case of apartments were no recommendations is made it is noted that the exposure to traffic noise will be significantly reduced due to increased distance from Condamine Road and the acoustic shielding provided by the building. As such standard glazing will be sufficient in all other apartments.

4.2 Mechanical Noise Emissions

No details of mechanical plant have been determined at this early stage of the project. Likely sources of mechanical noise from the proposed development will be the air-conditioning and ventilation plant located on the roof, basement level carpark fan ventilation shafts and possibly some pumps within the basement.

Mechanical plant such as rooftop exhausts, air-conditioning and refrigeration associated with the development should be assessed at the time of detailed design and selection, having regard to nearby residential and commercial properties surrounding the development and the noise criteria detailed in Section 3-3.

Any noise control measures can be incorporated into the development to ensure the acoustic amenity of nearby residences is protected. Therefore no particular difficulty is foreseen in meeting the noise emission requirements from the development.

4.3 Noise Transfer between Habitable Areas of the Development

The details of wall and floor constructions that meet the requirements of the NCC will be determined in the detail design stage of the project. Potential measures that can be adopted include:

- Masonry and / or plasterboard walls with acoustic insulation.
- Concrete floor slabs with suspended ceiling and insulation in cavities.
- Acoustic treatment of waste water pipe work.

5 CONCLUSION

An acoustic assessment has been undertaken for the Development Application for the proposed mixed-use development at 321 Condamine Street, Manly Vale.

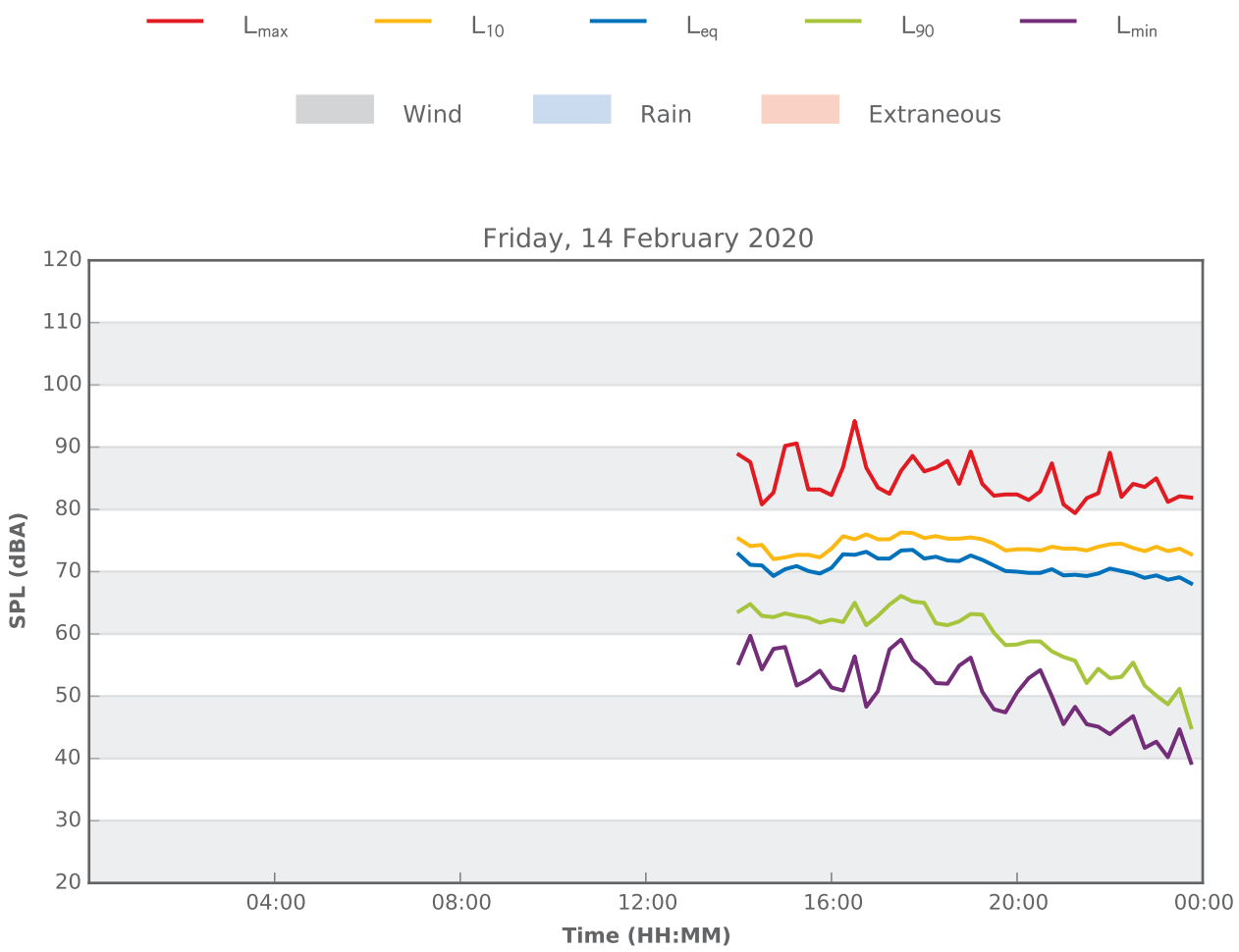
The following findings have been determined:

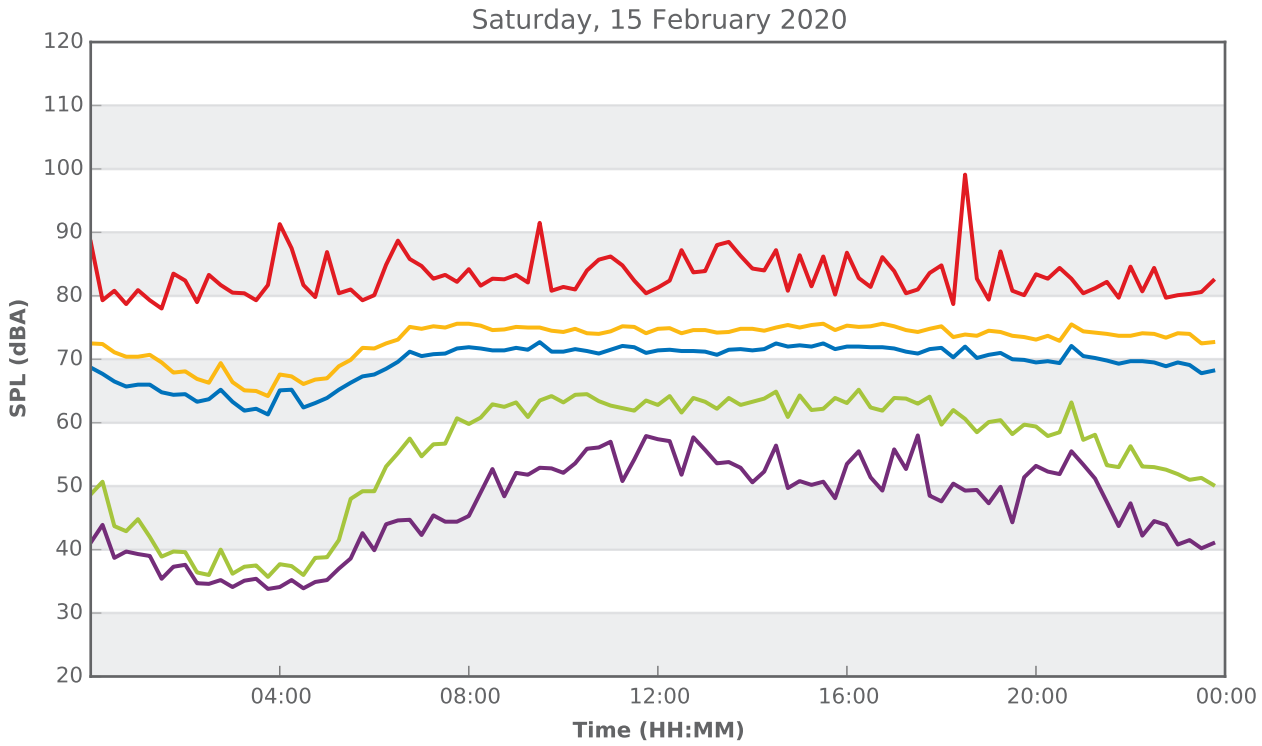
- Site-specific noise emission criteria have been established for the existing and future residential areas to the South and West of the site. It is noted that mechanical services and plant have not been selected; however, it is envisaged that compliance with criteria can be achieved. Where necessary standard engineering noise controls can be implemented at design stage to meet established noise criteria.
- Traffic associated the development will not adversely impact on the acoustic amenity of surrounding residences.
- Apartments facing Condamine Street will require improved glazing to ensure that the acoustic amenity of future residences is protected. Preliminary recommendations provide options for glazing.
- No special glazing is required on all other apartments.
- Internal noise isolation requirements in accordance with the NCC will be achieved by adopting appropriate constructions.

APPENDIX A

NOISE MEASUREMENT RESULTS

321 Condamine Street, Balgowlah





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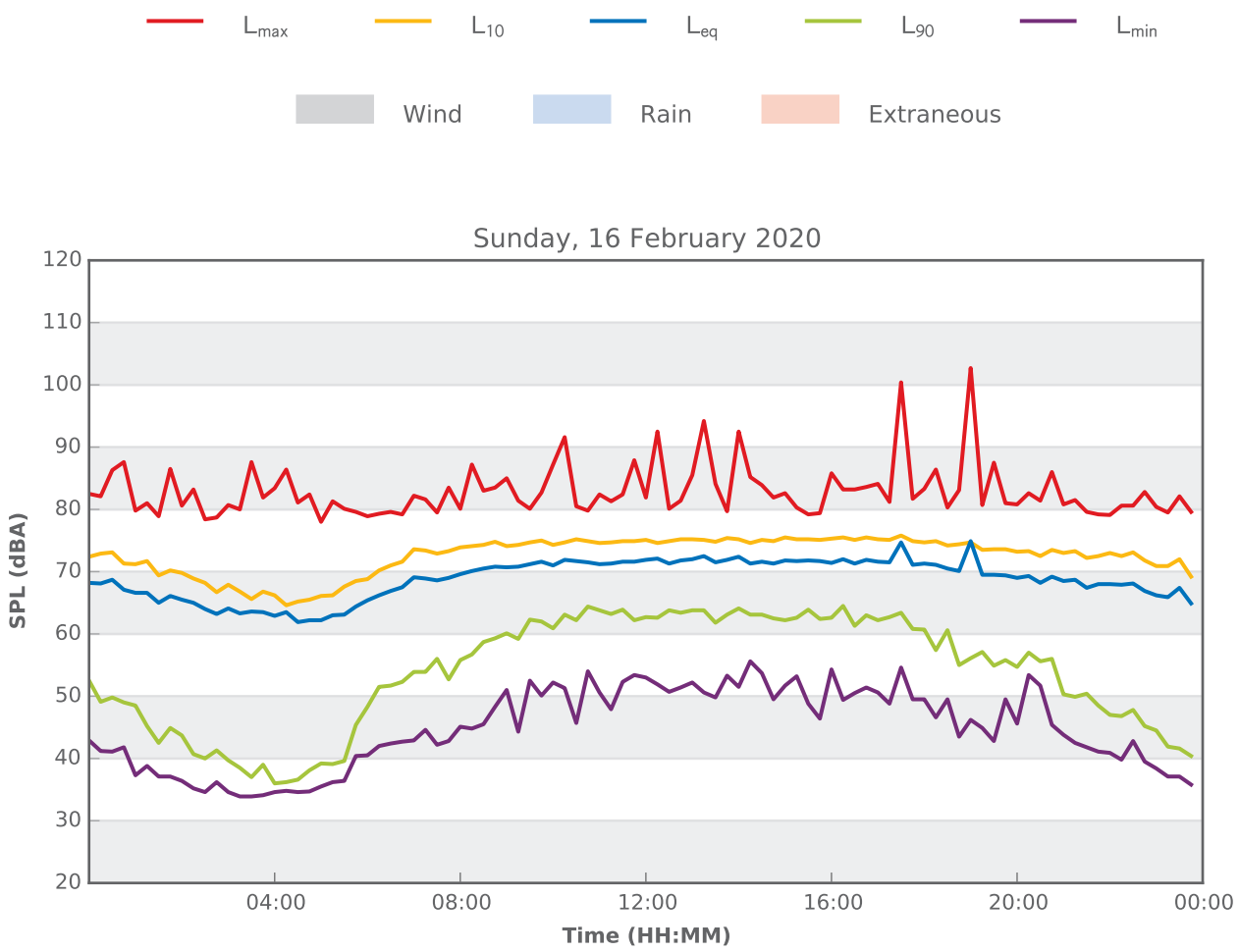

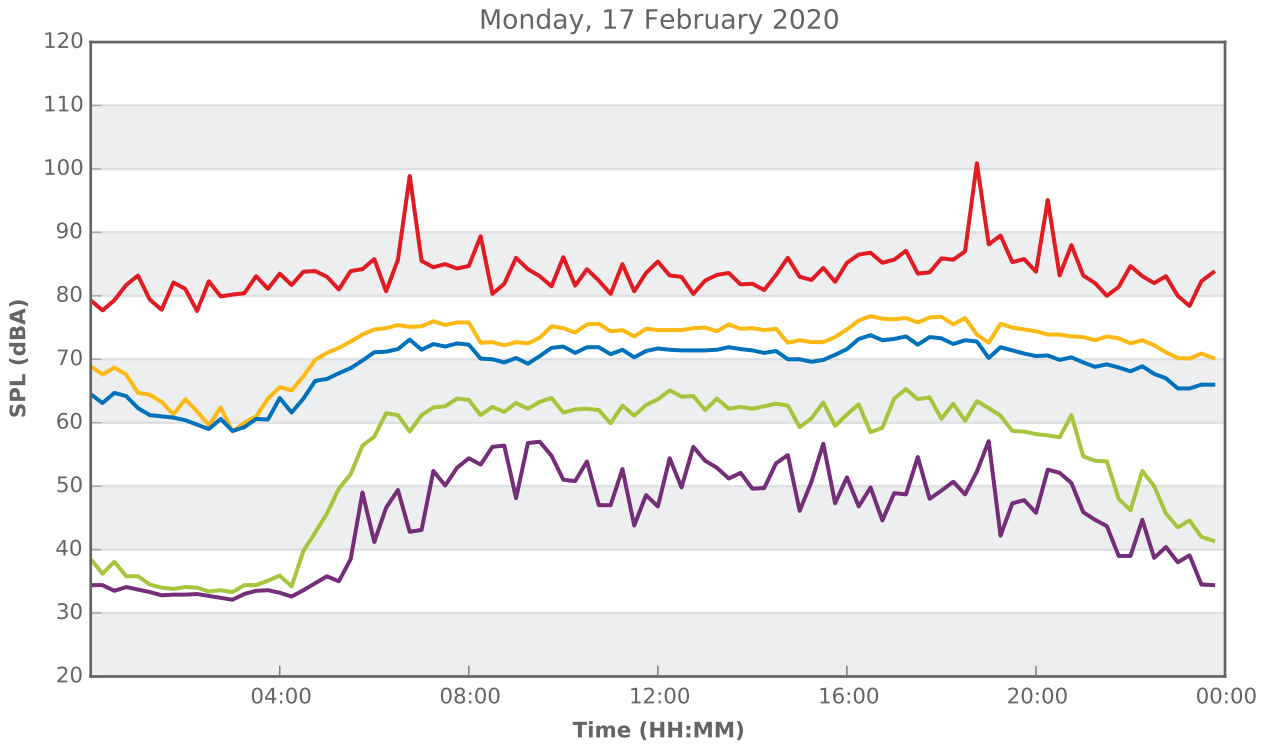

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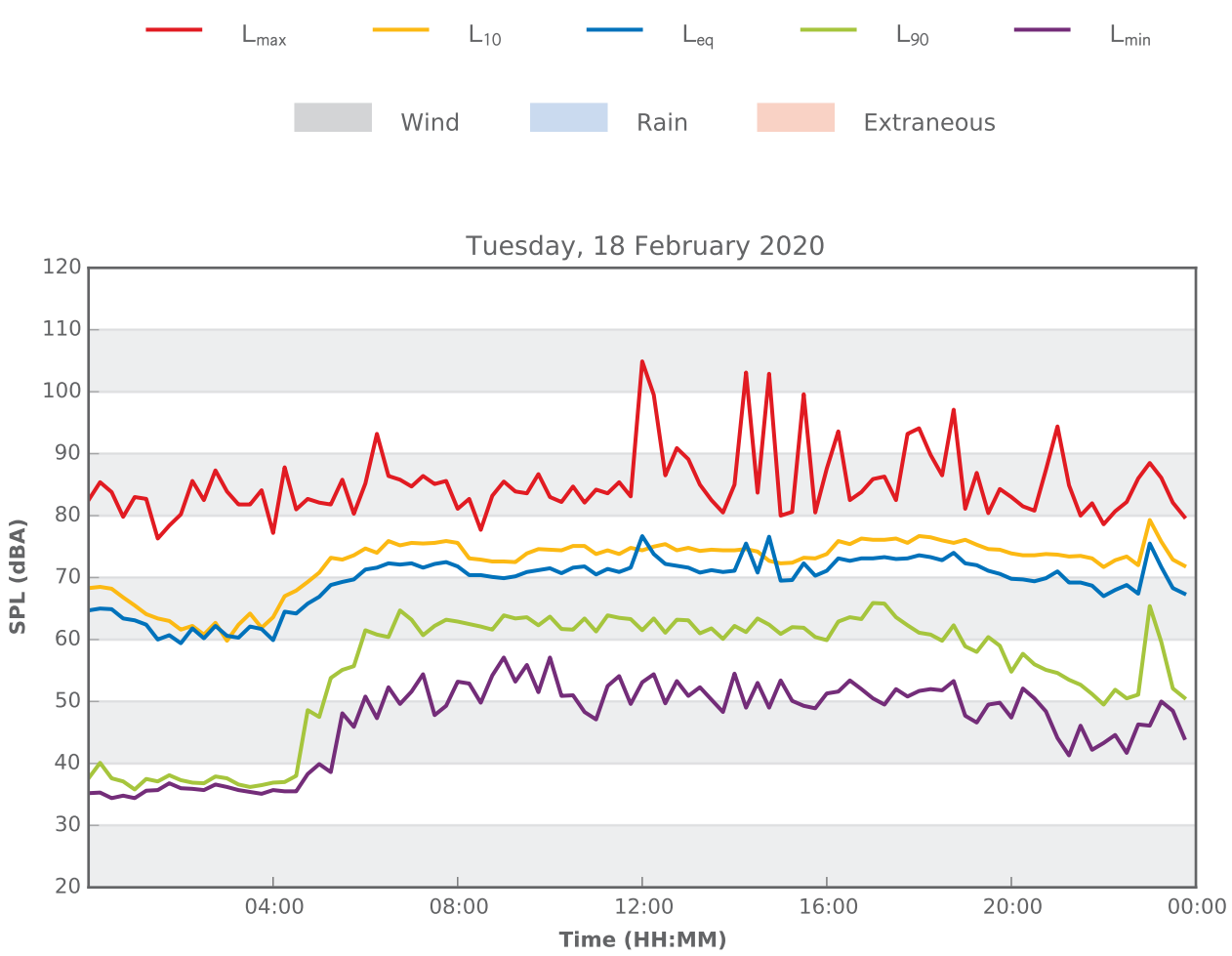

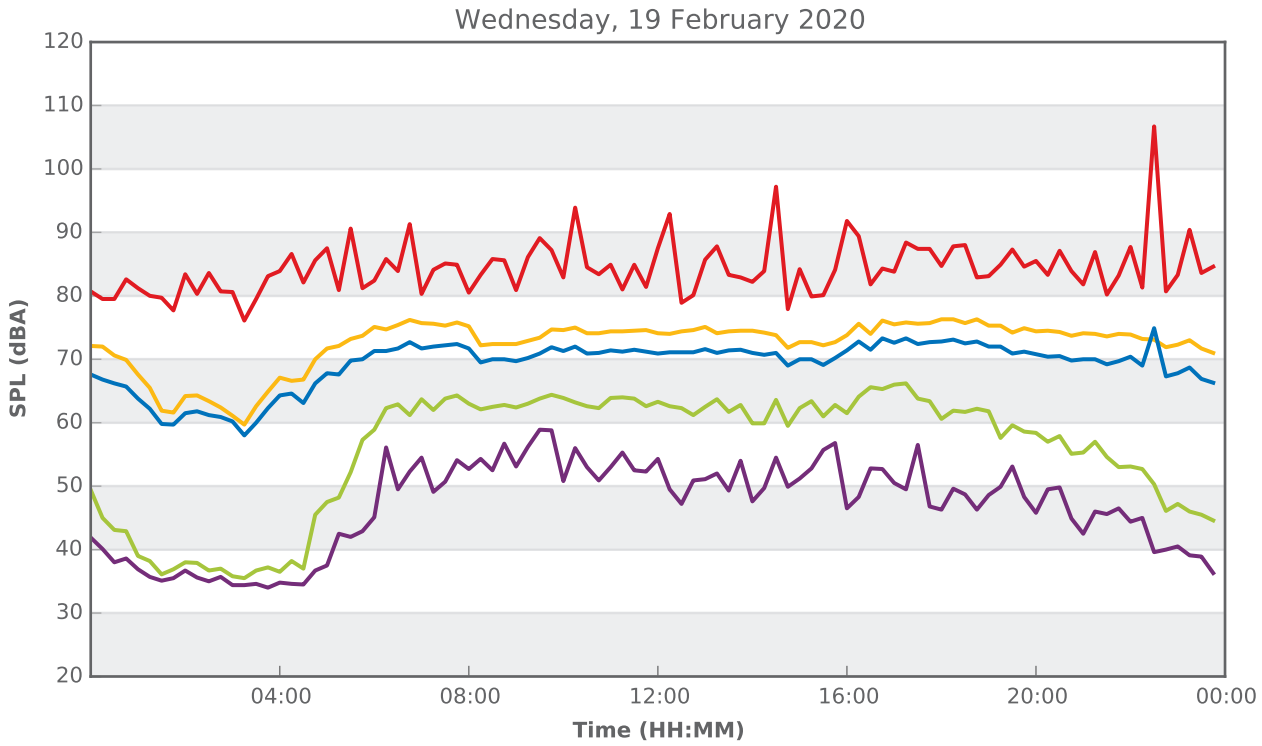

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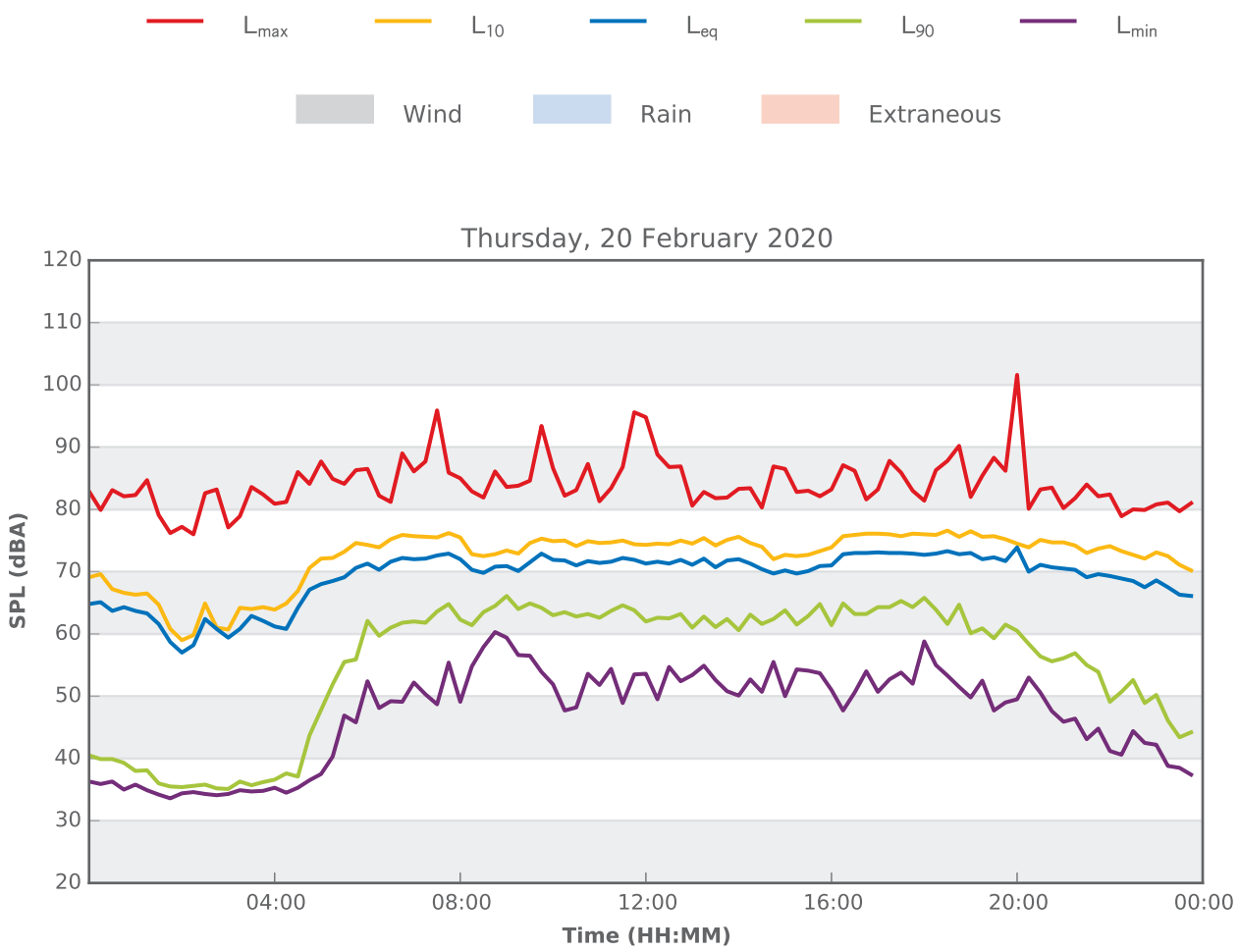

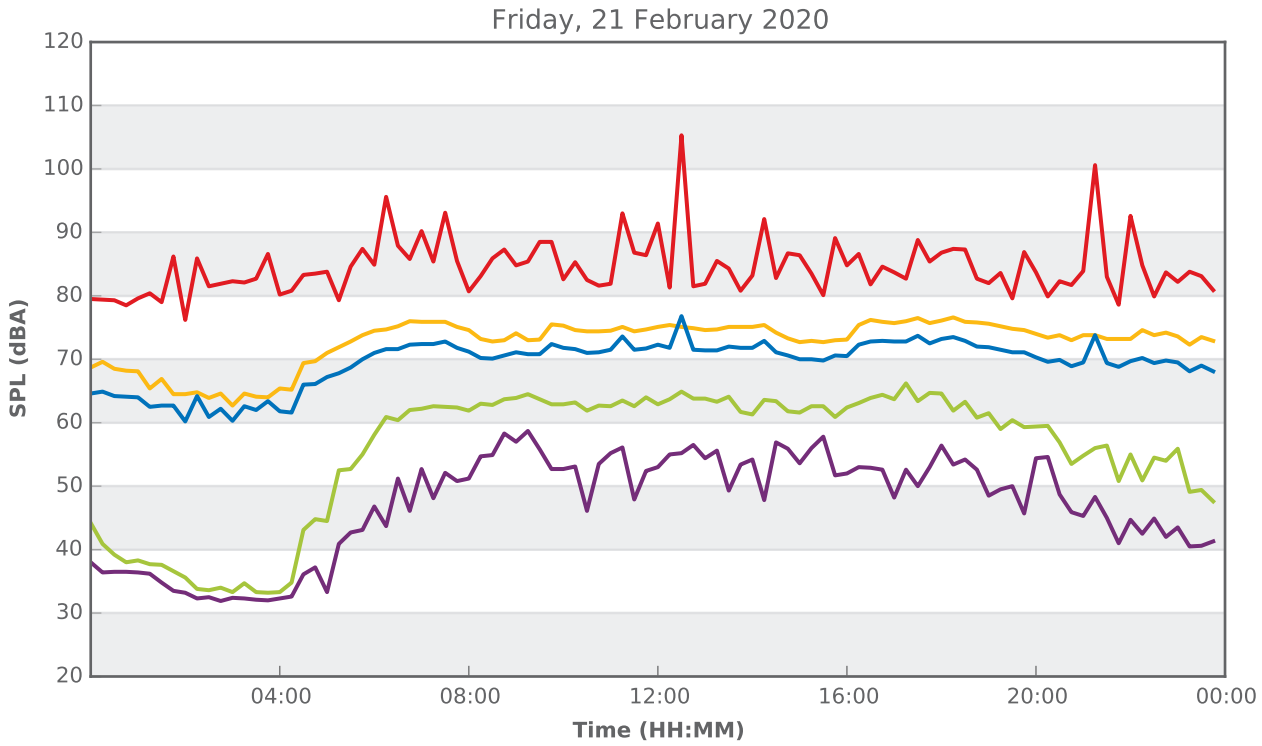

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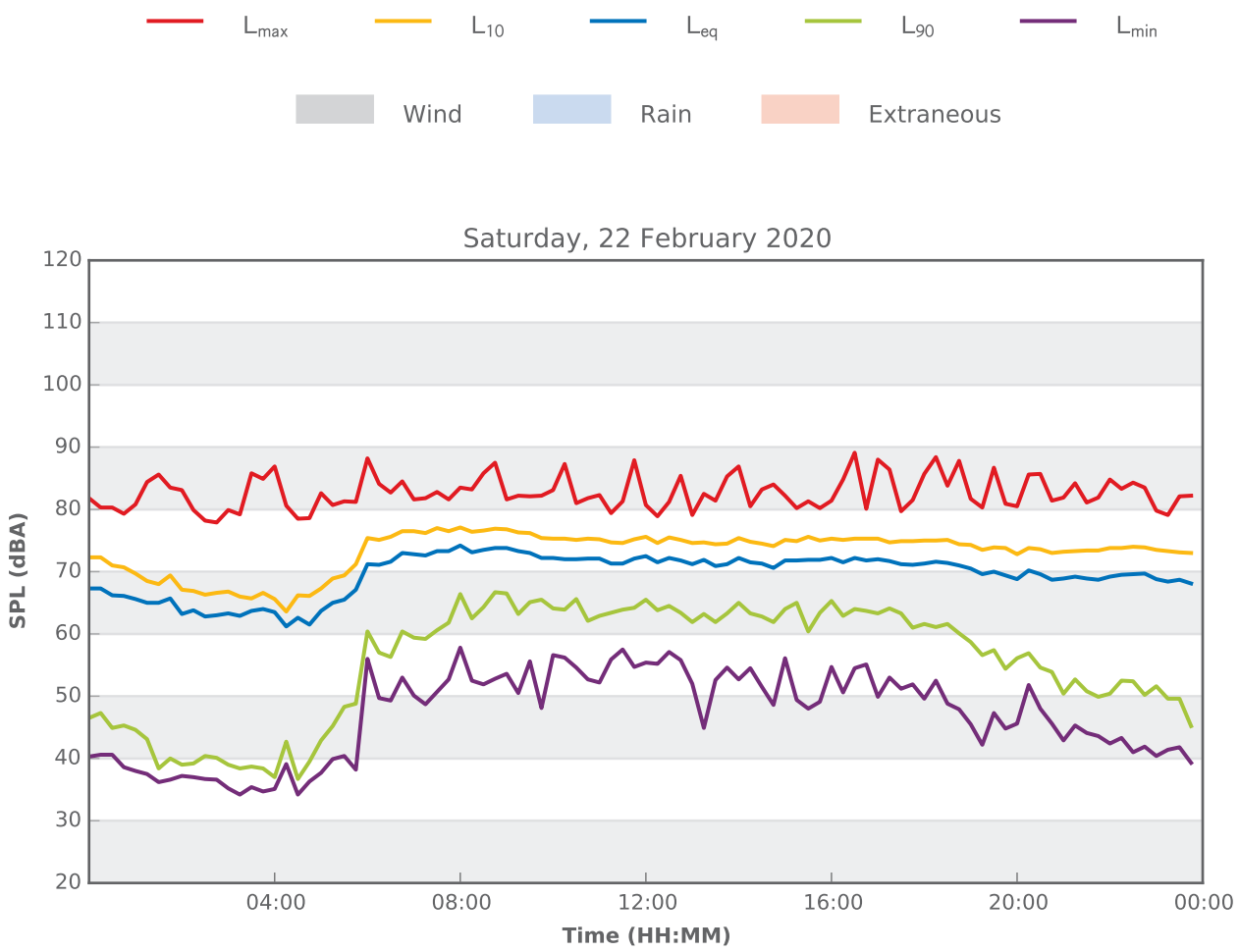

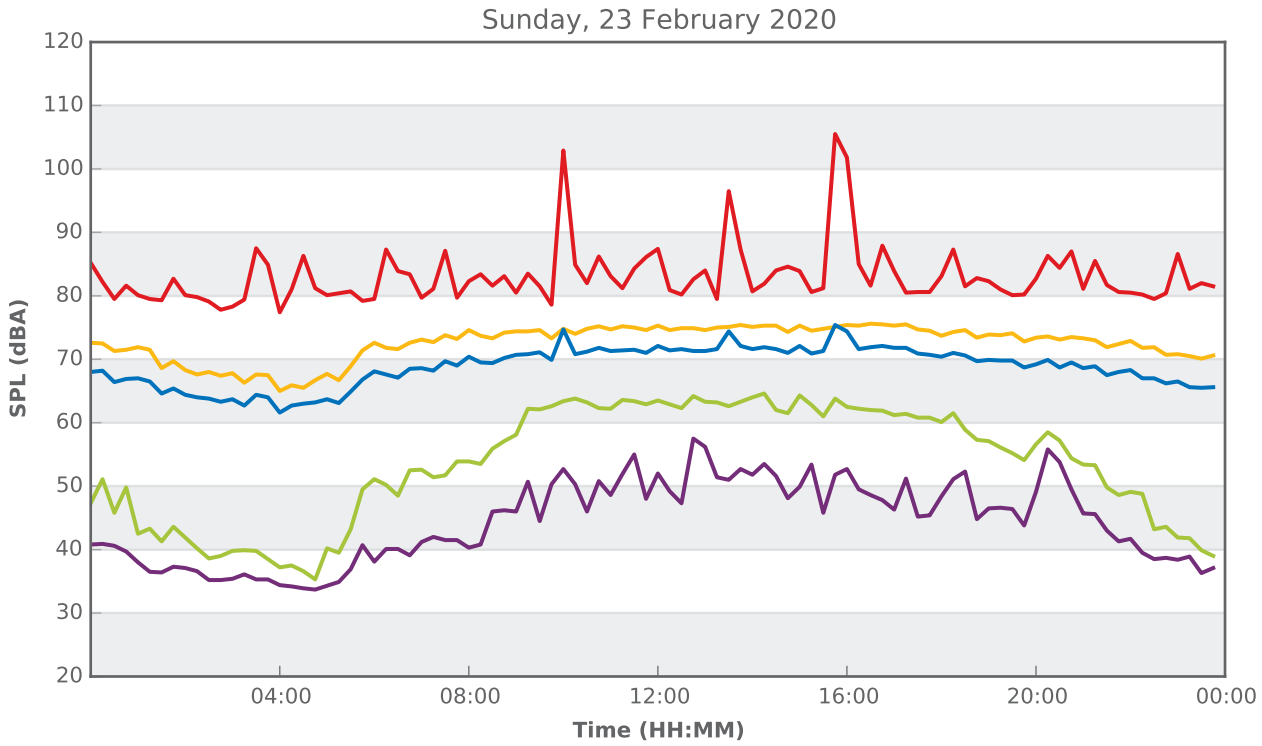

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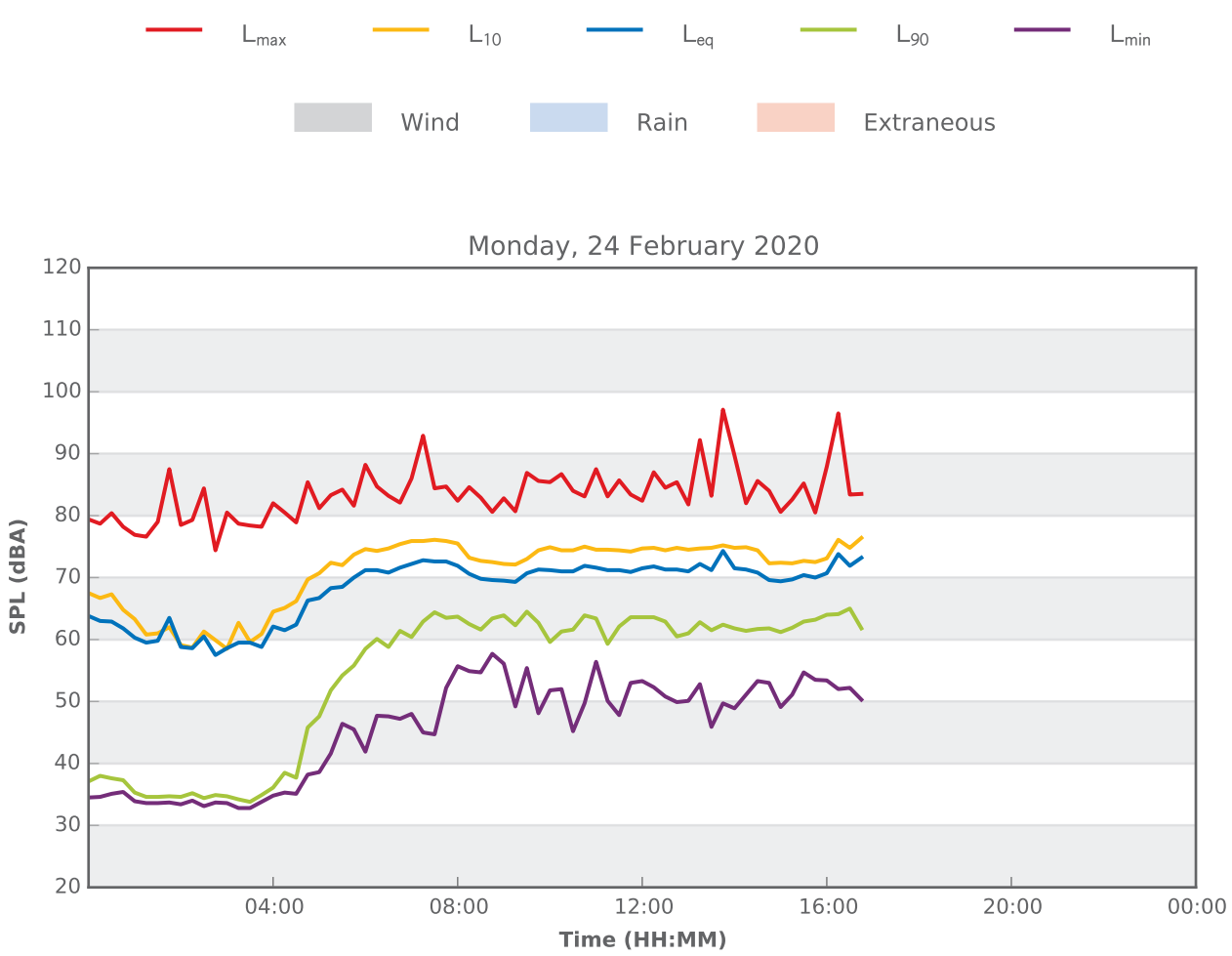

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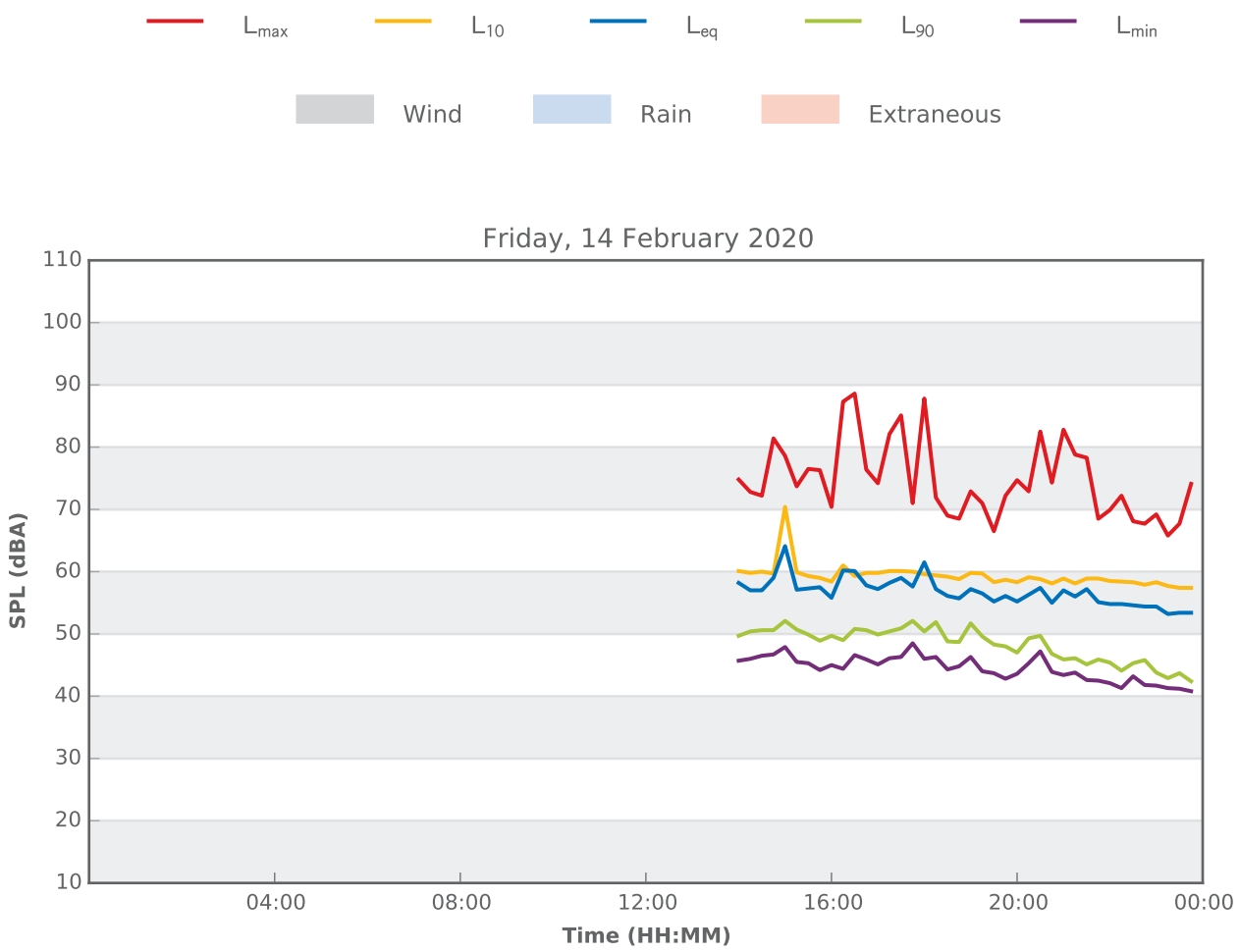

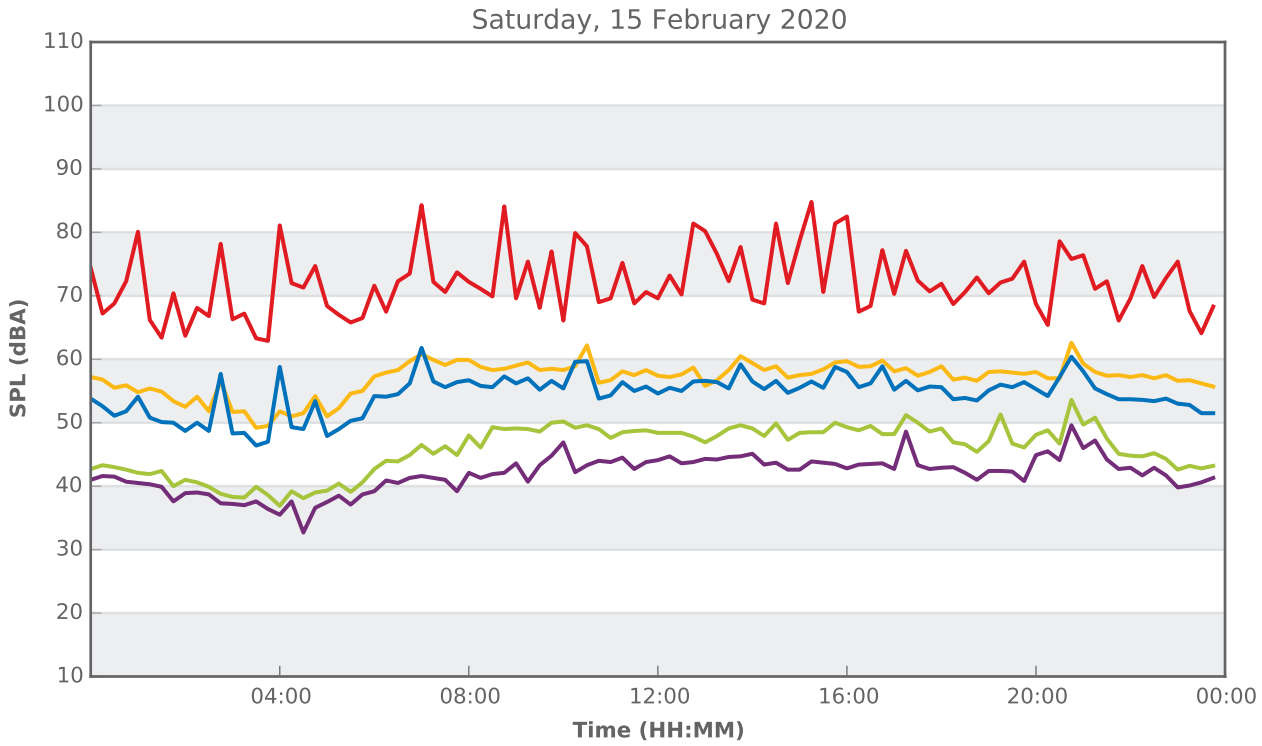

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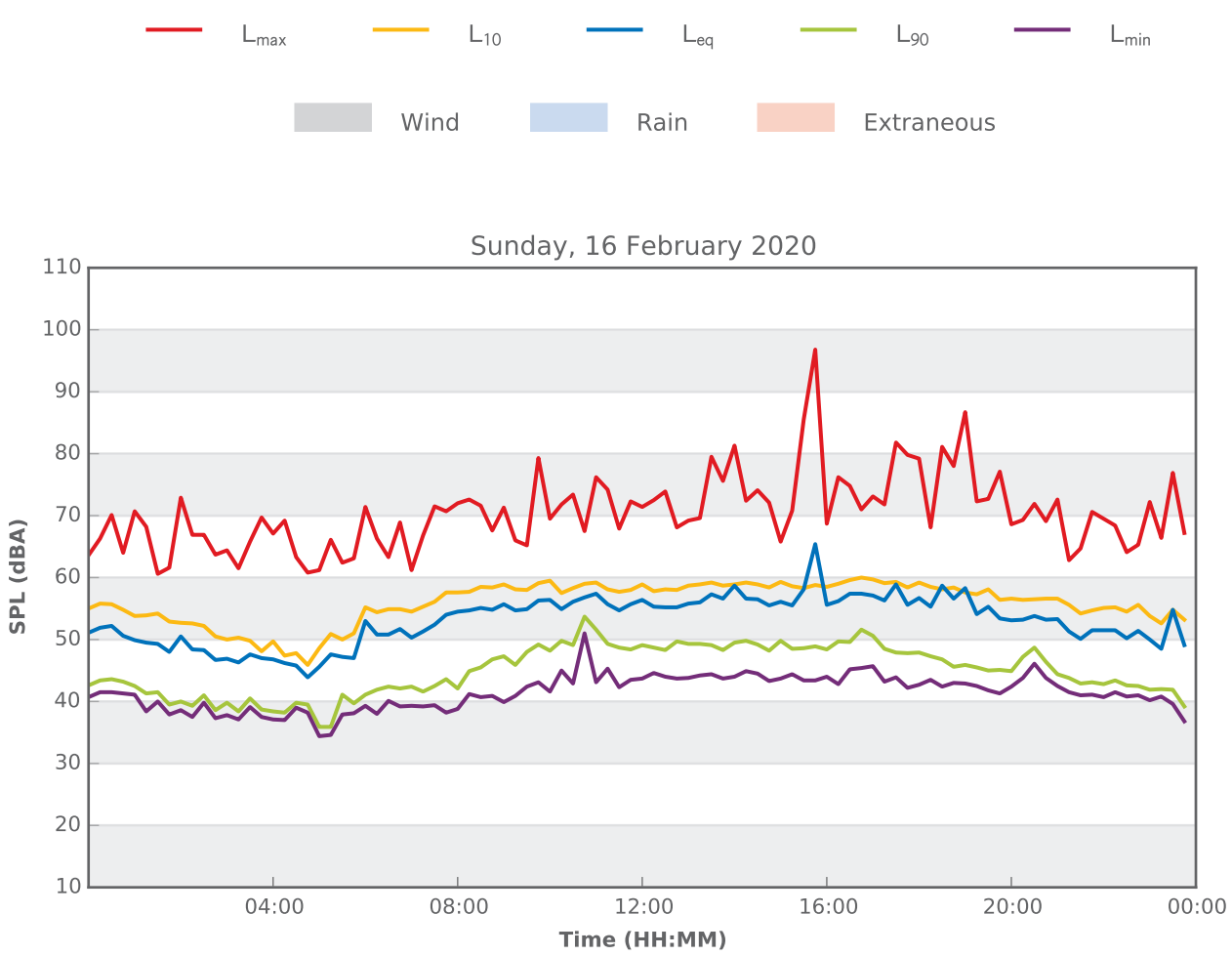

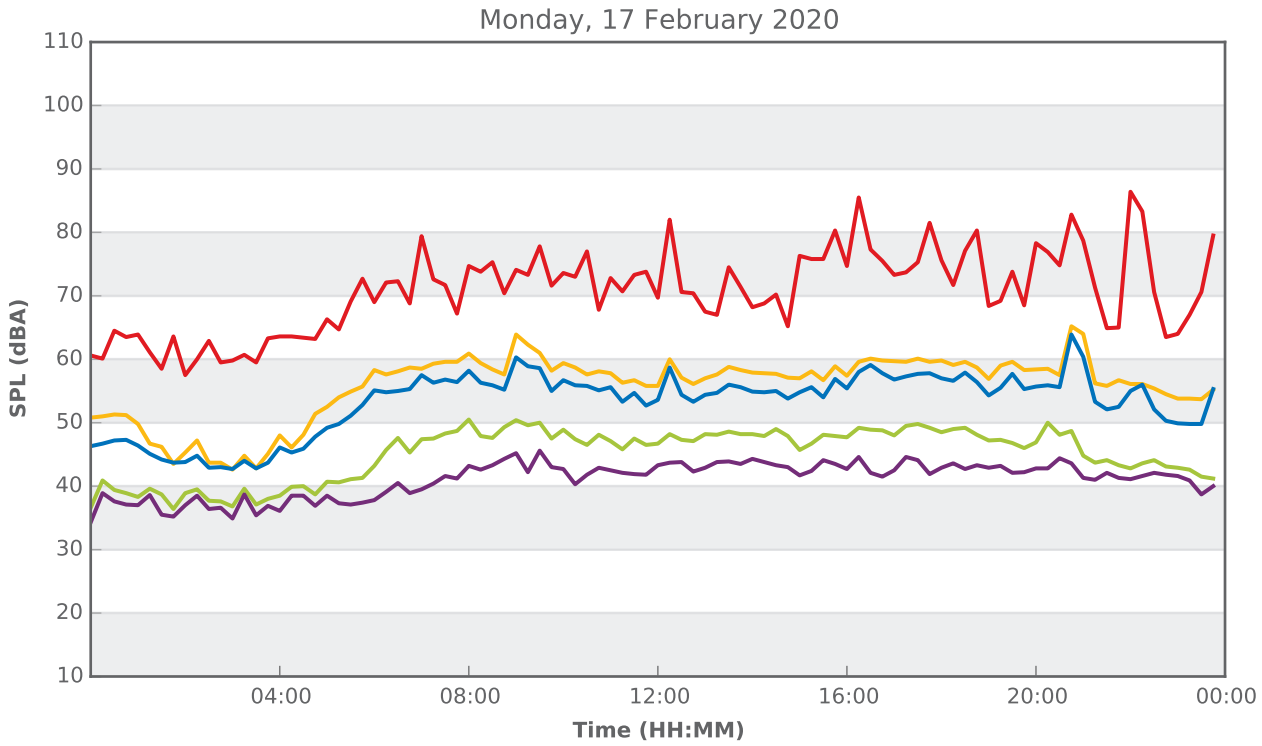

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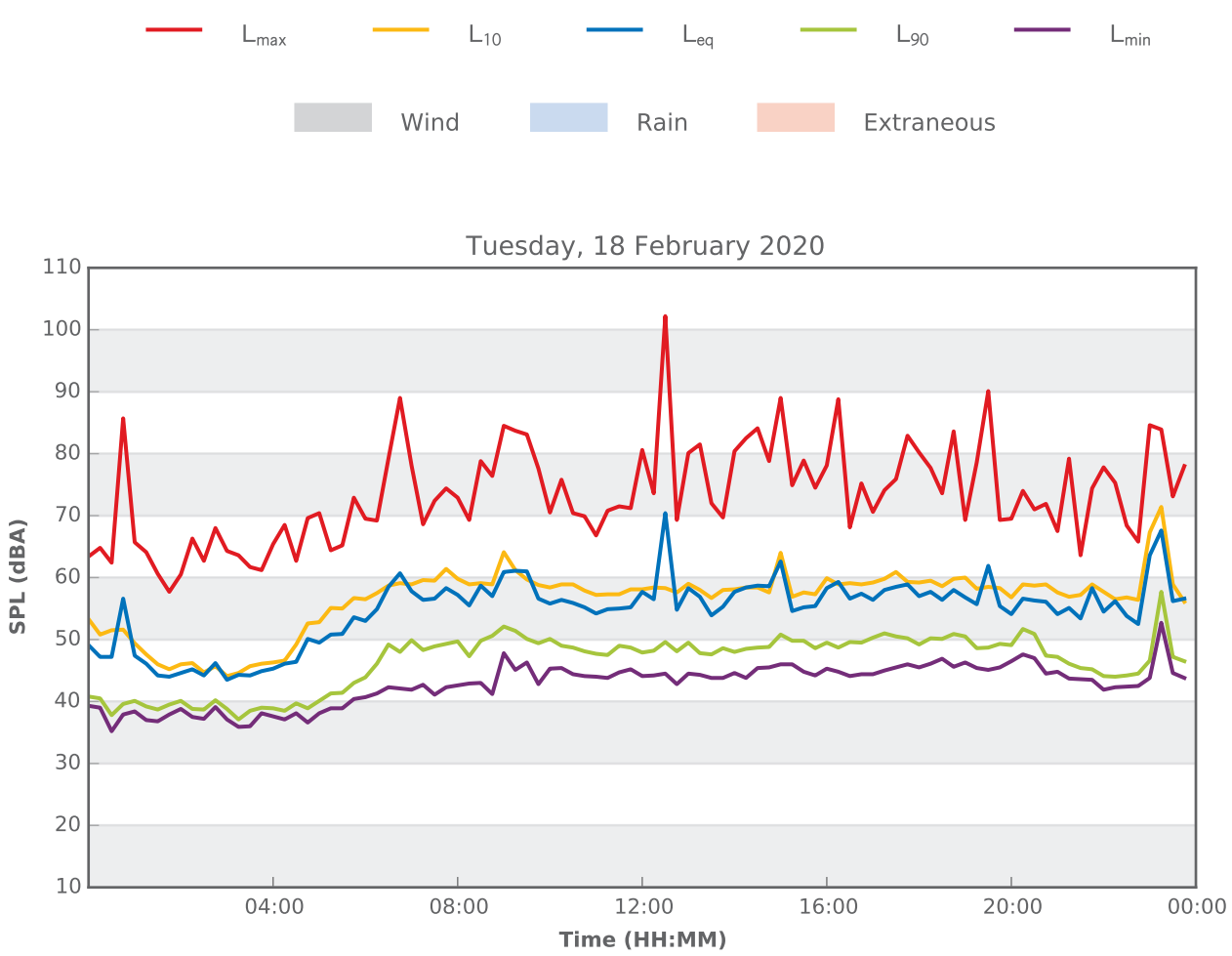

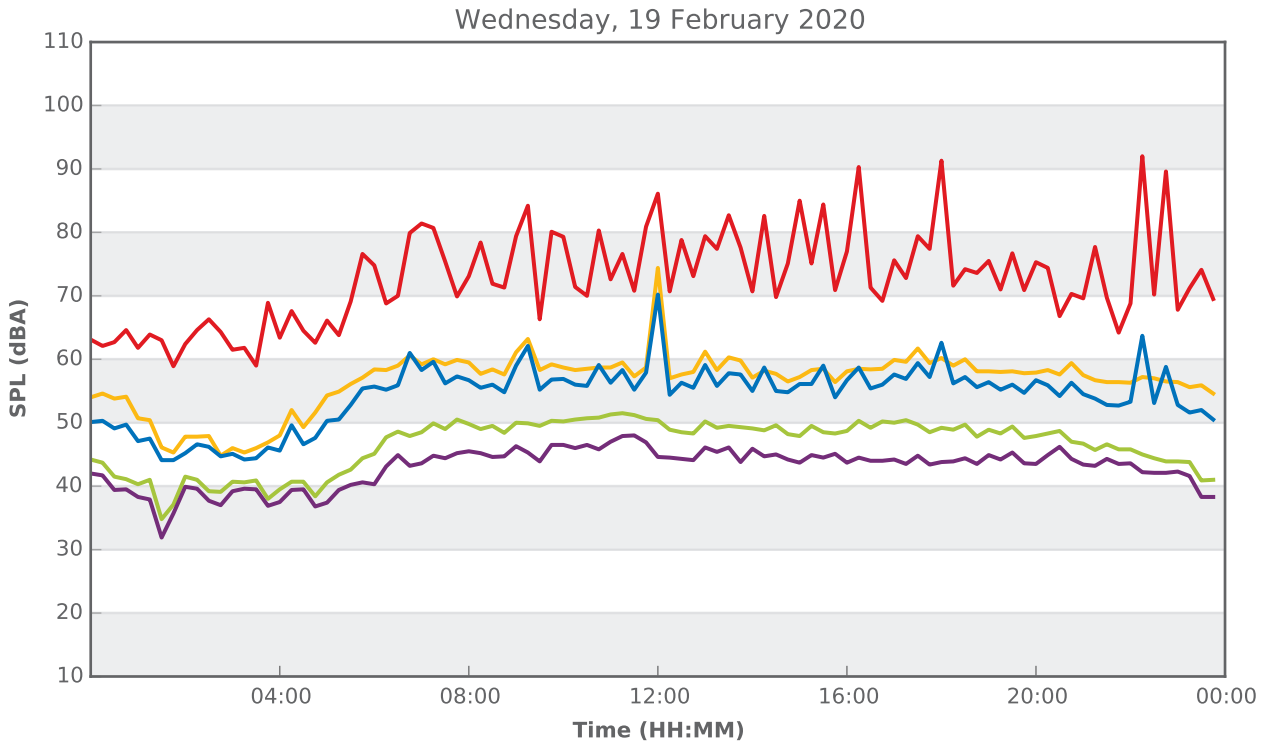

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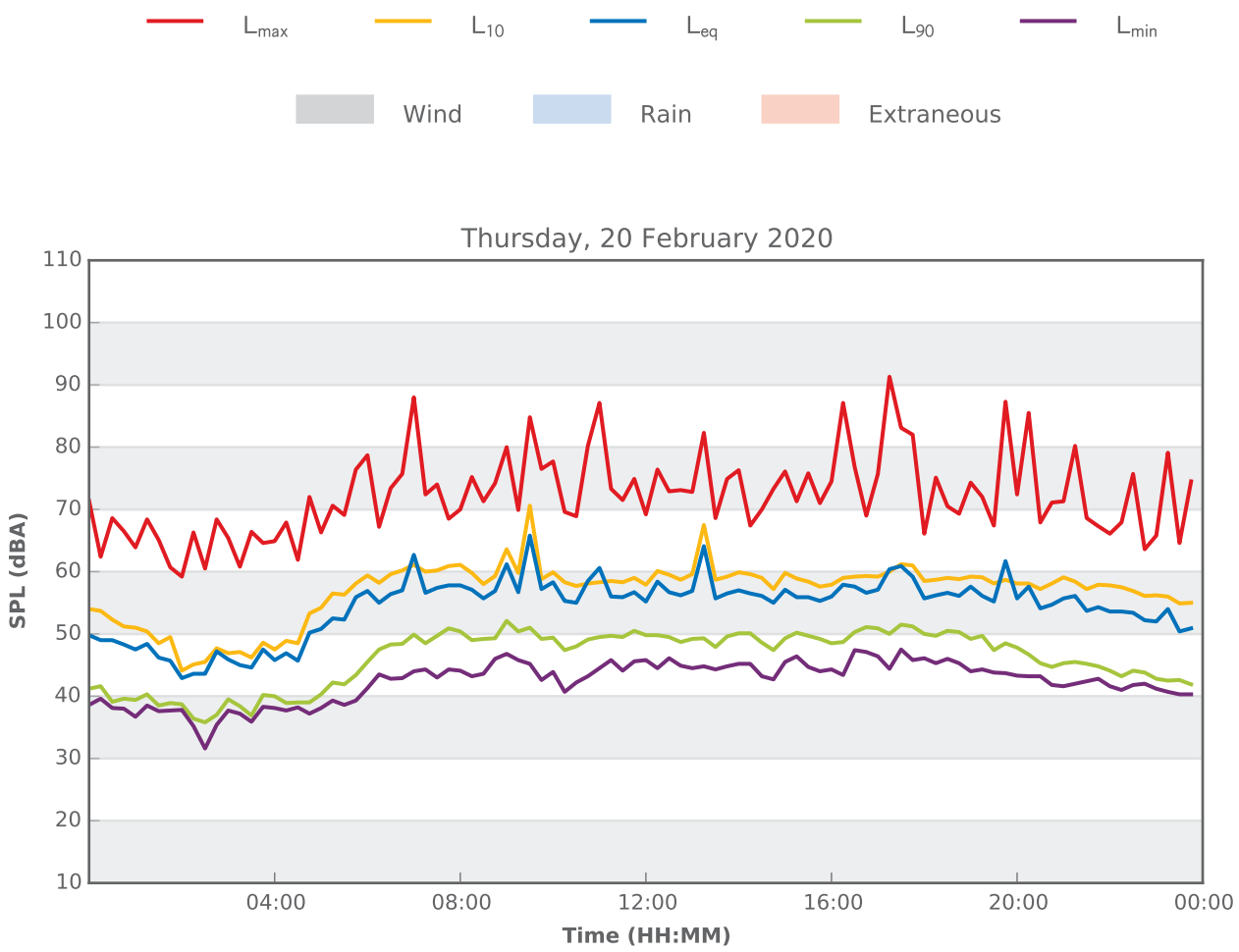

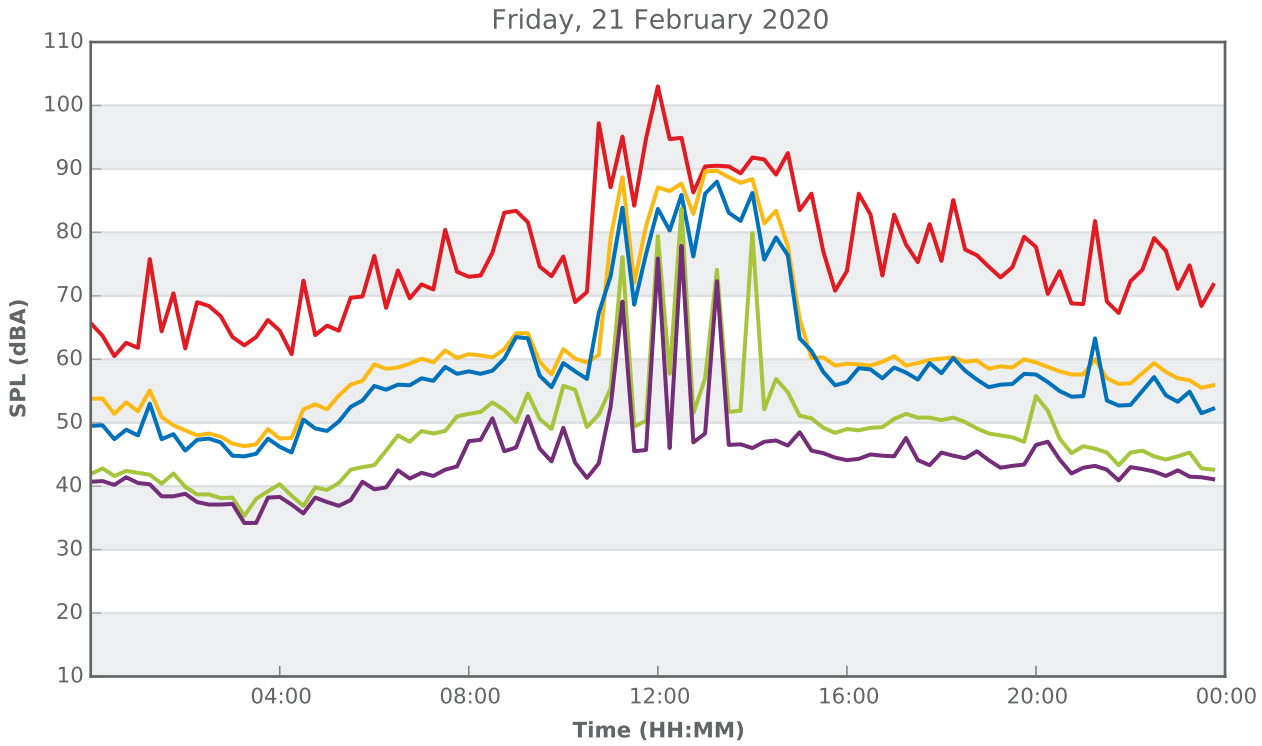

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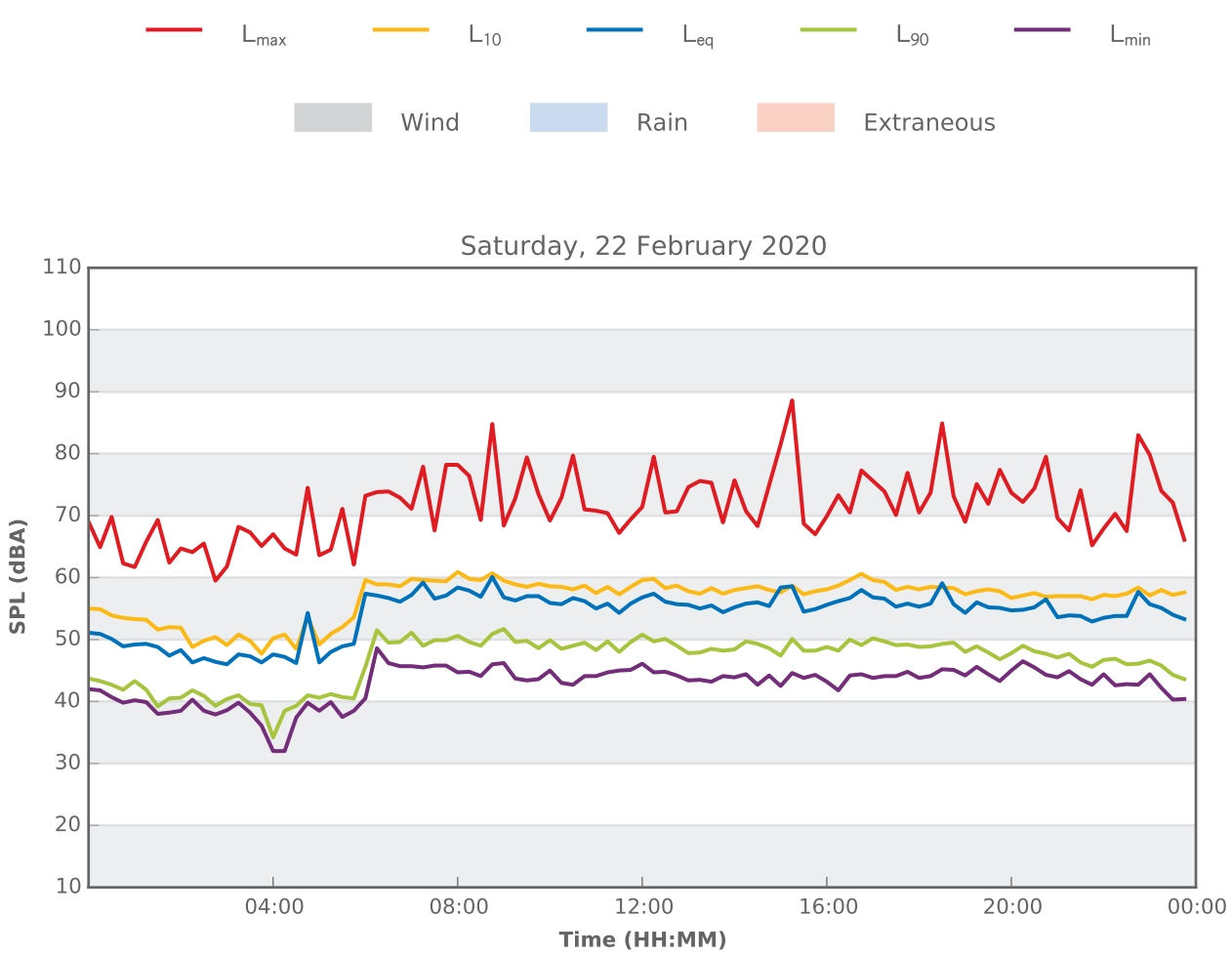

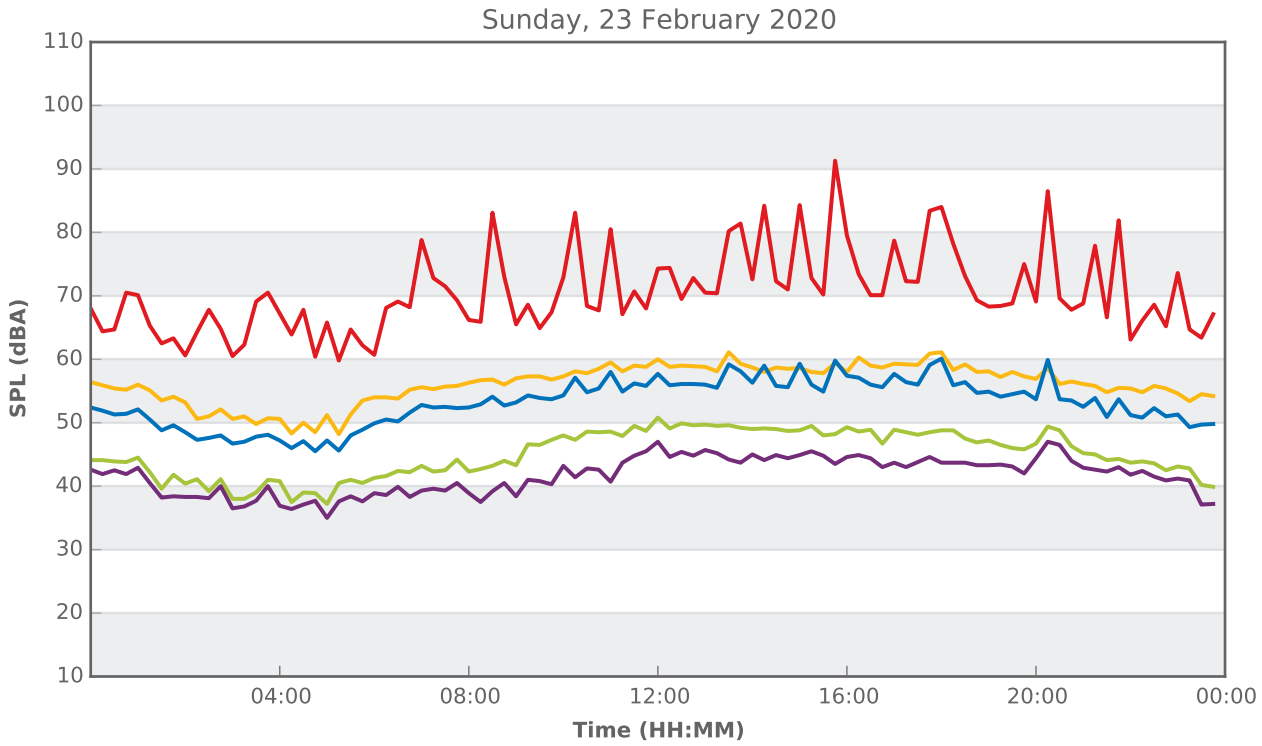

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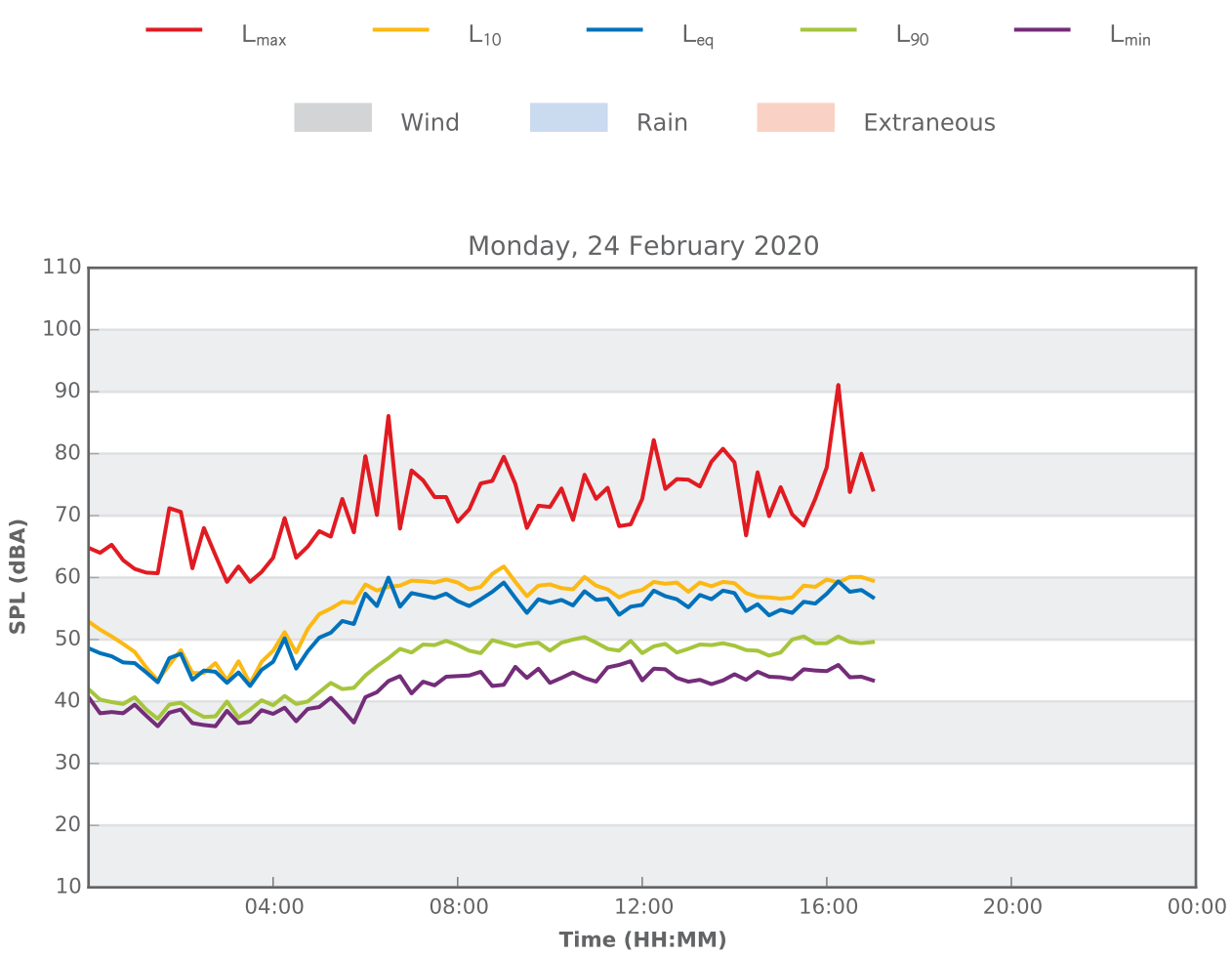

APPENDIX B

Floor Layouts

2 SUNSHINE STREET

1 KING STREET

SOMERVILLE PLACE

SUNSHINE STREET

CONDAMINE STREET

333 CONDAMINE STREET

335 CONDAMINE STREET

337 CONDAMINE STREET

BOUNDARY 38.075 M 10° 48' 05"

BOUNDARY 31.090 M 278° 23' 40"

BOUNDARY ARC 3.885 M RAD 2.545 234° 35' 45"

BOUNDARY 35.645 M 190° 48' 05"

LINE OF EXISTING BOUNDARY

LAND PROPOSED TO BE DEDICATED TO COUNCIL

LINE OF PROPOSED BOUNDARY SHOWN DASHED

LINE OF ADJACENT BOUNDARY

EXISTING 525 MM DIA STORMWATER SHOWN DASHED LOCATION INDICATIVE ONLY

EXISTING 375 MM DIA STORMWATER SHOWN DASHED LOCATION INDICATIVE ONLY

EXISTING 450 MM DIA STORMWATER SHOWN DASHED LOCATION INDICATIVE ONLY

01 2 BED A: 79.71 m² SOLAR = YES VENT = YES

02 1 BED + S A: 70.40 m² SOLAR = YES VENT = NO

03 2 BED A: 78.33 m² SOLAR = YES VENT = YES

04 1 BED A: 50.50 m² SOLAR = YES VENT = YES

05 1 BED A: 50.48 m² SOLAR = NO VENT = NO

06 2 BED A: 70.24 m² SOLAR = YES VENT = YES

07 1 BED A: 50.15 m² SOLAR = NO VENT = NO

08 2 BED A: 70.52 m² SOLAR = YES VENT = YES

09 2 BED A: 70.14 m² SOLAR = NO VENT = NO SILVER LEVEL

10 1 BED + S A: 70.87 m² SOLAR = YES VENT = YES

11 2 BED A: 78.88 m² SOLAR = NO VENT = NO SILVER LEVEL

12 2 BED A: 79.69 m² SOLAR = NO VENT = YES SILVER LEVEL

LIFT 1 LIFT CAR 1.6 x 1.4 M

LIFT 2 LIFT CAR 1.6 x 1.4 M

STAIR 1

STAIR 2

LOBBY 21.300

LOBBY 22.000

COURTYARD

GLASS BLOCKS LOUVRE OVER

TRANSLUCENT GLASS

EXTERNAL BLIND

AWNING

SIGN

SW PIT SPP11086

SW PIT SPP11087

SW PIT SPP21152

SW PIT SPP11088

SW PIT SPP11089

SW PIT SPP11090

SW PIT SPP21155

SW PIT SPP11094

SW PIT SPP11095

SW PIT SPP11096

SW PIT SPP11097

SW PIT SPP11098

SW PIT SPP11099

SW PIT SPP11100

SW PIT SPP11091

SW PIT SPP11092

SW PIT SPP11093

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Revision ID	Description	Issue Date
P2	PRE-DA SUBMISSION	4/09/2019
P3	GENERAL UPDATE TO FLOOR PLANS	16/12/2019
P4	GENERAL UPDATE - ISSUED FOR CO-ORDINATION.	7/02/2020
P5	UNIT AREAS REVISED TO COMPLY WITH ADG. GENERAL REVISION TO PLANS AS CLOUDED. SILVER LEVEL UNITS ADDED.	14/02/2020
P6	GENERAL UPDATE - ISSUED FOR CO-ORDINATION.	12/05/2020

PROJECT
MIXED-USE DEVELOPMENT
321 CONDAMINE STREET
MANLY VALE NSW

FOR MANLY VALE DEVELOPMENTS No 2 P/L

DRAWING TITLE
LEVEL 1 PLAN

SCALE	DRAWN BY	PLOT DATE
1:100 @ A1	SG / AW	12/05/2020
PROJECT NO.	DRAWING NO.	REVISION
1511	DA-05	P6

2 SUNSHINE STREET

1 KING STREET

LINE OF ADJACENT BOUNDARY

SOMERVILLE PLACE

EXISTING 525 MM DIA STORMWATER SHOWN DASHED LOCATION INDICATIVE ONLY

BOUNDARY 38.075 M 10° 48' 05"

LINE OF EXISTING BOUNDARY

LAND PROPOSED TO BE DEDICATED TO COUNCIL

LINE OF PROPOSED BOUNDARY SHOWN DASHED

PRIVACY SCREENS

SUNSHINE STREET

BOUNDARY 31.090 M 278° 23' 40"

BOUNDARY ARC 3.885 M RAD 2.545 234° 35' 45"

BOUNDARY 35.645 M 190° 48' 05"

BOUNDARY 98.22 40"

CONDAMINE STREET

333 CONDAMINE STREET

335 CONDAMINE STREET

337 CONDAMINE STREET

TERRACE 7

TERRACE 6

TERRACE 5

LOUNGE

COURTYARD

STAIR 1

STAIR 2

LIFT 1 LIFT CAR 1.6 x 1.4 M

LIFT 2 LIFT CAR 1.6 x 1.4 M

LOBBY 24.400

LOBBY 25.100

18 2 BED A: 70.24 m² SOLAR = YES VENT = YES

19 1 BED A: 50.15 m² SOLAR = NO VENT = NO

20 2 BED A: 70.52 m² SOLAR = YES VENT = YES

21 2 BED A: 70.14 m² SOLAR = NO VENT = NO SILVER LEVEL

22 1 BED + S A: 70.55 m² SOLAR = YES VENT = YES

17 1 BED A: 50.48 m² SOLAR = YES VENT = NO

16 1 BED A: 50.50 m² SOLAR = YES VENT = YES

15 2 BED 78.33 m² SOLAR = SOLAR VENT = YES

14 1 BED + S A: 70.40 m² SOLAR = YES VENT = NO

13 2 BED A: 79.71 m² SOLAR = YES VENT = YES

23 2 BED A: 78.88 m² SOLAR = NO VENT = NO SILVER LEVEL

24 2 BED A: 79.69 m² SOLAR = NO VENT = YES SILVER LEVEL

07 06 05

EXISTING 750 MM DIA STORMWATER SHOWN DASHED LOCATION INDICATIVE ONLY.

EXISTING 450 MM DIA STORMWATER SHOWN DASHED LOCATION INDICATIVE ONLY.

P5

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Revision ID	Description	Issue Date
P1	PRE-DA SUBMISSION	4/09/2019
P2	GENERAL UPDATE TO PRE-DA DRAWINGS.	19/12/2019
P3	GENERAL UPDATE - ISSUED FOR CO-ORDINATION.	7/02/2020
P4	UNIT AREAS REVISED TO COMPLY WITH ADG. GENERAL REVISION TO PLANS AS CLOUDED. SILVER LEVEL UNITS ADDED.	14/02/2020
P5	GENERAL UPDATE - ISSUED FOR CO-ORDINATION.	12/05/2020

PROJECT
MIXED-USE DEVELOPMENT
321 CONDAMINE STREET
MANLY VALE NSW

DRAWING TITLE
LEVEL 2 PLAN

SCALE	DRAWN BY	PLOT DATE
1:100 @ A1	SG / AW	12/05/2020
PROJECT NO.	DRAWING NO.	REVISION
1511	DA-06	P5

FOR MANLY VALE DEVELOPMENTS No 2 P/L

2 SUNSHINE STREET

1 KING STREET

POOL

POOL AREA

LINE OF ADJACENT BOUNDARY

SOMERVILLE PLACE

EXISTING 525 MM DIA STORMWATER SHOWN DASHED. LOCATION INDICATIVE ONLY

BOUNDARY 38.075 M 10° 48' 05"

LINE OF EXISTING BOUNDARY

LAND PROPOSED TO BE DEDICATED TO COUNCIL

LINE OF PROPOSED BOUNDARY SHOWN DASHED

SUNSHINE STREET

BOUNDARY 31.090 M 278° 23' 40"

EXISTING 335 MM DIA STORMWATER SHOWN DASHED. LOCATION INDICATIVE ONLY

BOUNDARY ARC 3.885 M RAD 2.545 234° 35' 45"

BOUNDARY 35.645 M 190° 48' 05"

BOUNDARY 33.53 M 98° 22' 40"

CONDAMINE STREET

EXISTING 750 MM DIA STORMWATER SHOWN DASHED. LOCATION INDICATIVE ONLY.

EXISTING 450 MM DIA STORMWATER SHOWN DASHED. LOCATION INDICATIVE ONLY.

333 CONDAMINE STREET

335 CONDAMINE STREET

337 CONDAMINE STREET

SW PIT SPP11086 SW PIT SPP11087 SW PIT SPP11088 SW PIT SPP11089 SW PIT SPP11090 SW PIT SPP11091 SW PIT SPP11092 SW PIT SPP11093 SW PIT SPP11094 SW PIT SPP11095 SW PIT SPP11100 SW PIT SPP21152 SW PIT SPP21155

SIGN

LEVEL 3 PLAN

TERRACE A: 31.03 m² | TERRACE A: 13.42 m² | TERRACE A: 17.47 m² | TERRACE A: 14.73 m² | TERRACE A: 12.81 m² | TERRACE A: 15.00 m² | TERRACE A: 31.80 m² | TERRACE A: 16.13 m² | TERRACE A: 11.87 m²

PLANTER

4 METRE SET-BACK

COURTYARD

LOBBY 27.500 | LOBBY 27.200

LIFT 1 LIFT CAR 1.6 x 1.4 M | LIFT 2 LIFT CAR 1.6 x 1.4 M

STAIR 1 | STAIR 2

GLASS BLOCKS VENT OVER | GLASS BLOCKS

TRANSLUCENT GLASS

25 2 BED A: 73.89 m² SOLAR = YES VENT = YES

26 2 BED A: 70.59 m² SOLAR = YES VENT = YES

27 2 BED A: 70.28 m² SOLAR = YES VENT = YES

28 2 BED A: 72.16 m² SOLAR = YES VENT = YES

29 2 BED A: 89.97 m² SOLAR = YES VENT = YES SILVER LEVEL

30 2 BED A: 72.70 m² SOLAR = YES VENT = YES

31 2 BED A: 74.23 m² SOLAR = YES VENT = YES

32 2 BED A: 70.56 m² SOLAR = YES VENT = YES

33 2 BED A: 75.85 m² SOLAR = YES VENT = YES

LIVING | DINING | KITCHEN | BED 1 | BED 2 | ENSUITE | BATH ROOM | BATHROOM | LDY | LIN | CPE | SKYLIGHT OVER

SK

DA-12 | DA-13 | DA-14 | DA-15

P6

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Revision ID	Description	Issue Date
P2	PRE-DA SUBMISSION	4/09/2019
P3	GENERAL UPDATE TO PRE-DA DRAWINGS.	19/12/2019
P4	GENERAL UPDATE - ISSUED FOR CO-ORDINATION.	7/02/2020
P5	UNIT AREAS REVISED TO COMPLY WITH ADG. GENERAL REVISION TO PLANS AS CLOUDED. SILVER LEVEL UNITS ADDED.	14/02/2020
P6	GENERAL UPDATE - ISSUED FOR CO-ORDINATION.	12/05/2020

PROJECT: MIXED-USE DEVELOPMENT
321 CONDAMINE STREET
MANLY VALE NSW

DRAWING TITLE: LEVEL 3 PLAN

SCALE: 1:100 @ A1 | DRAWN BY: SG / AW | PLOT DATE: 12/05/2020

PROJECT NO.: 1511 | DRAWING NO.: DA-07 | REVISION: P6

FOR MANLY VALE DEVELOPMENTS No 2 P/L

2 SUNSHINE STREET

1 KING STREET

POOL

POOL AREA

LINE OF ADJACENT BOUNDARY

SOMERVILLE PLACE

EXISTING 525 MM DIA STORMWATER SHOWN DASHED. LOCATION INDICATIVE ONLY

BOUNDARY 38.075 M 10° 48' 05"

LINE OF EXISTING BOUNDARY

LAND PROPOSED TO BE DEDICATED TO COUNCIL

LINE OF PROPOSED BOUNDARY SHOWN DASHED

4,566

6,000

1,434

SUNSHINE STREET

BOUNDARY 31.090 M 278° 23' 40"

BOUNDARY ARC 3.885 M RAD 2.545 234° 35' 45"

BOUNDARY 35.645 M 190° 48' 05"

BOUNDARY 33.53 M 98° 22' 40"

333 CONDAMINE STREET

335 CONDAMINE STREET

337 CONDAMINE STREET

CONDAMINE STREET

UNIT 29 BELOW

UNIT 28 BELOW

UNIT 27 BELOW

UNIT 26 BELOW

UNIT 25 BELOW

UNIT 30 BELOW

UNIT 31 BELOW

UNIT 32 BELOW

UNIT 33 BELOW

COURTYARD

COURTYARD

ROOF ACCESS

LIFT OVER-RUN

GE COVAL KE COVIL

CPE

LIFT OVER-RUN

AC-01 AC-02 AC-03 AC-04 AC-05 AC-06

AC-13 AC-14 AC-15 AC-16 AC-17

AC-18 AC-33 AC-32 AC-31 AC-30 AC-29 AC-28 AC-27 AC-26 AC-25

AC-19 AC-R4

AC-R3 AC-R2 AC-R1

AC-20 AC-21 AC-22 AC-23 AC-24

AC-07 AC-08 AC-09 AC-10 AC-11 AC-12

SKY-28-03

SK

29.270

29.886

29.886

29.870

DA-12 1

DA-12 2

DA-13 3

DA-14 A

DA-14 B

DA-15 C

SW PIT SPP11086

SW PIT SPP11087

SW PIT SPP11088

SW PIT SPP11089

SW PIT SPP11090

SW PIT SPP11091

SW PIT SPP11092

SW PIT SPP11093

SW PIT SPP11094

SW PIT SPP11095

SW PIT SPP21152

SW PIT SPP21155

SW PIT SPP11100

SIGN

EXISTING 750 MM DIA STORMWATER SHOWN DASHED. LOCATION INDICATIVE ONLY.

EXISTING 450 MM DIA STORMWATER SHOWN DASHED. LOCATION INDICATIVE ONLY

P2

N

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Revision ID	Description	Issue Date
P1	GENERAL UPDATE - ISSUED FOR CO-ORDINATION.	7/02/2020
P2	GENERAL UPDATE - ISSUED FOR CO-ORDINATION.	12/05/2020

PROJECT
MIXED-USE DEVELOPMENT
321 CONDAMINE STREET
MANLY VALE NSW

DRAWING TITLE
ROOF PLAN - LOWER

SCALE 1:100 @ A1
DRAWN BY SG / AW
PLOT DATE 12/05/2020
PROJECT NO. 1511
DRAWING NO. DA-08
REVISION P2

FOR MANLY VALE DEVELOPMENTS No 2 P/L