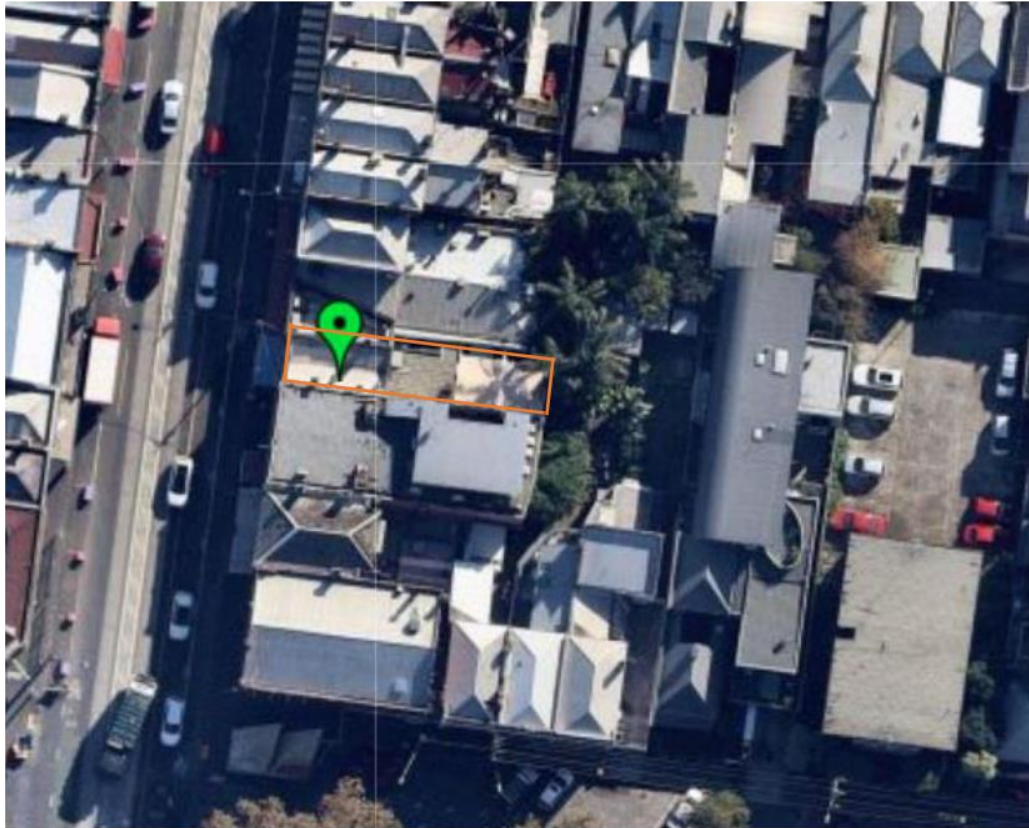
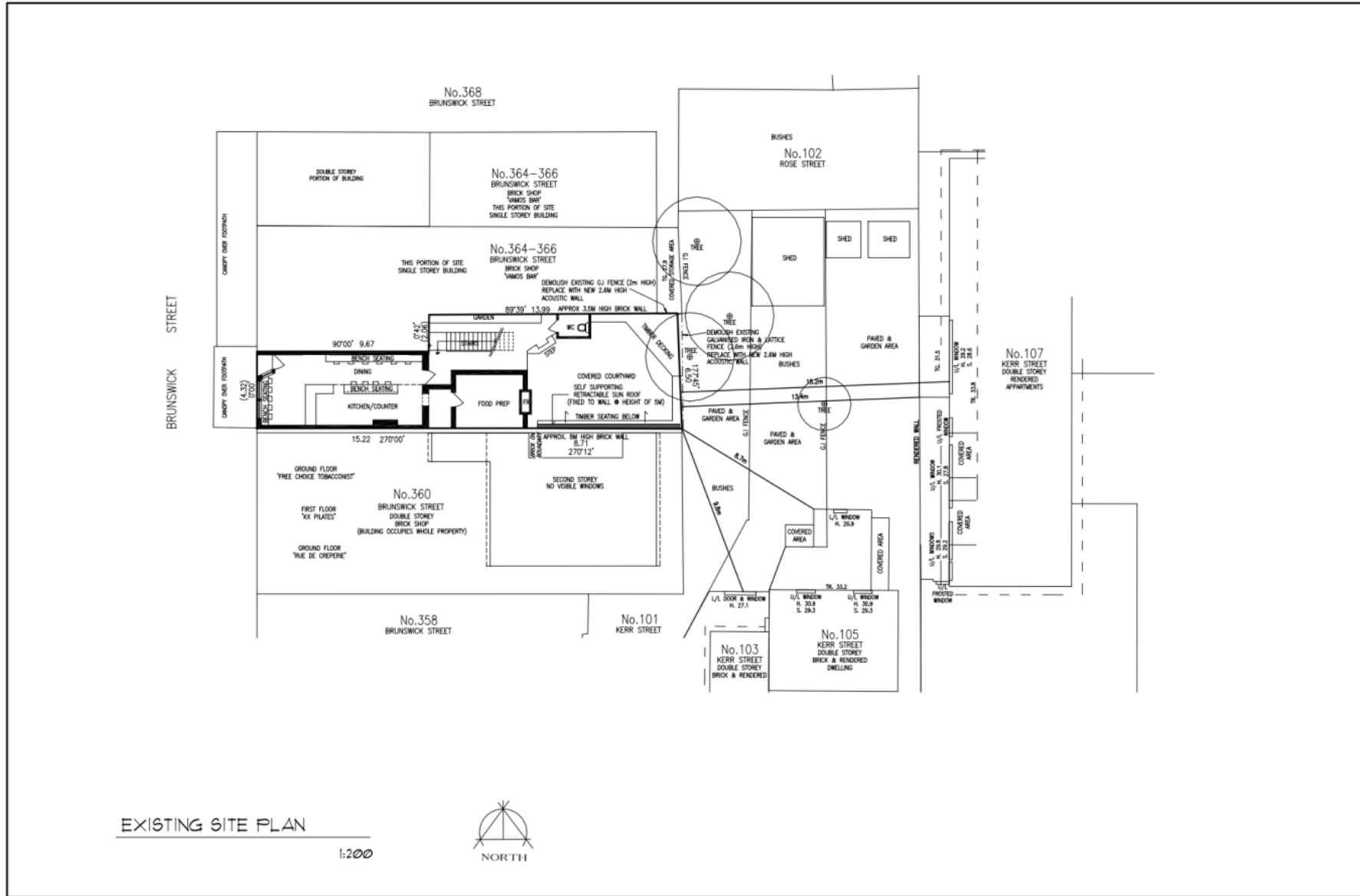


**Attachment 1 - PLN20/0403 - 362 Brunswick Street Fitzroy - Subject Site Map**

PLN20/0403 – 362 Brunswick Street Fitzroy – Subject Site Map



Attachment 2 - PLN20/0403 - 362 Brunswick Street Fitzroy - Advertising S52 - Plans



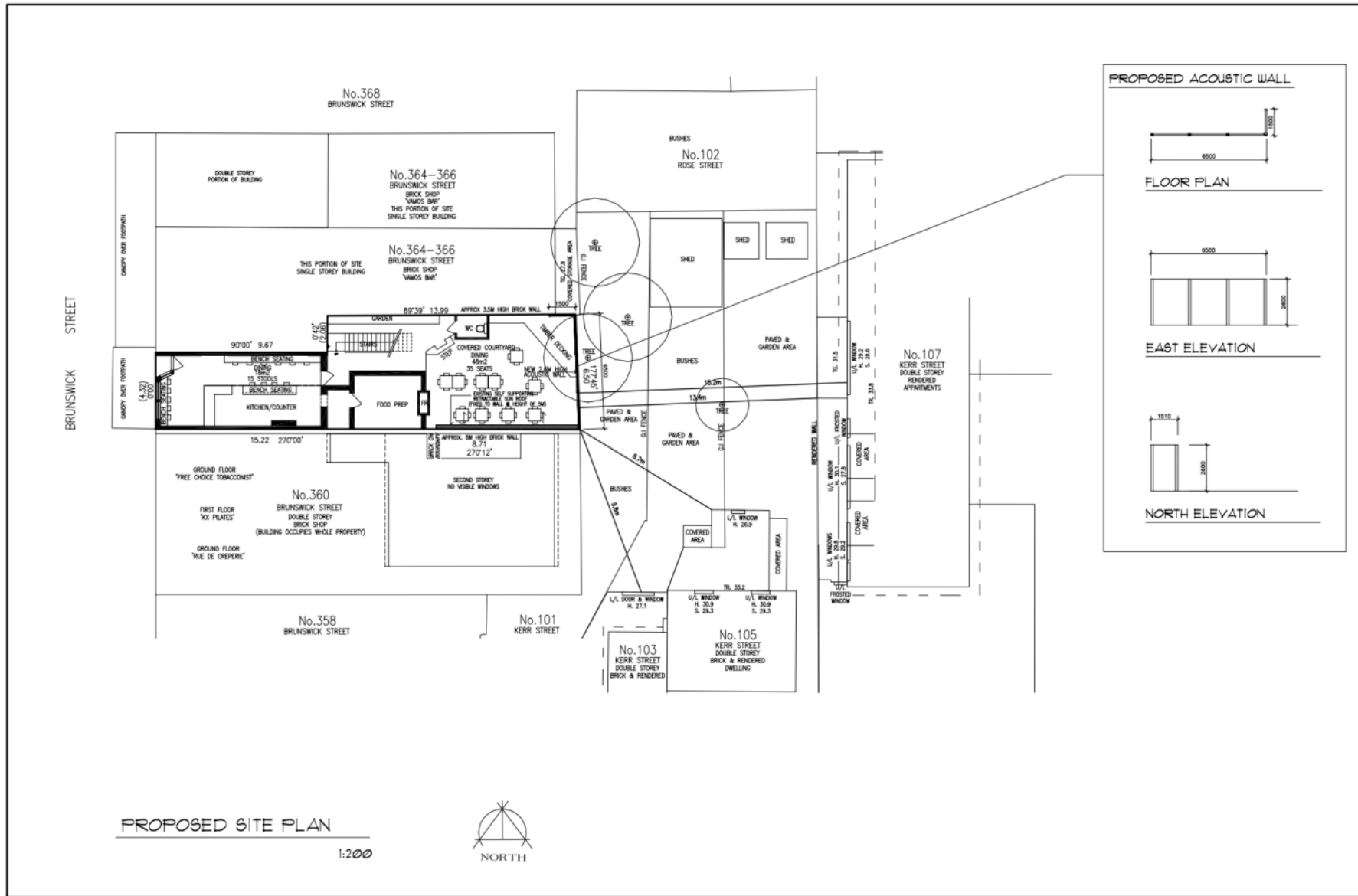
**OGT SOLUTIONS PTY LTD**  
 BUILDING DESIGN OLIVER TING RBP No. DPAD 17733  
 SUITE 208 LEVEL 2, 80 KEILOR ROAD ESSENDON NORTH VIC 3041  
 PH: (03) 9379-8722 FAX: (03) 9379-2877 MOBILE: 0411-773498  
 EMAIL: tomas@ogtsolutions.com.au WEBSITE: www.ogtsolutions.com.au

**PROJECT LICENCED PREMISES FLOORPLAN**  
 ADDRESS 362 BRUNSWICK STREET FITZROY  
 NEWLY REF -  
 OWNER -

REVISIONS		
No	DATE	COMMENTS
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-

Drawn By:	TF	Drawing No:	OGT350
Date Drawn:	JUN18	Date Issued:	
Checked By:	OT	Revision No.:	-
Date Checked:	JUN18	Sheet No.:	1 of 5

Attachment 2 - PLN20/0403 - 362 Brunswick Street Fitzroy - Advertising S52 - Plans



**ogt solutions** OGT SOLUTIONS PTY LTD  
 BUILDING DESIGN OLIVER TING RBP No. DPAD 17733  
 SUITE 208 LEVEL 2, 80 KEILOR ROAD ESSENDON NORTH VIC 3041  
 PH: (03) 9379-8722 FAX: (03) 9379-2877 MOBILE: 0411-773498  
 EMAIL: tomas@ogtsolutions.com.au WEBSITE: www.ogtsolutions.com.au

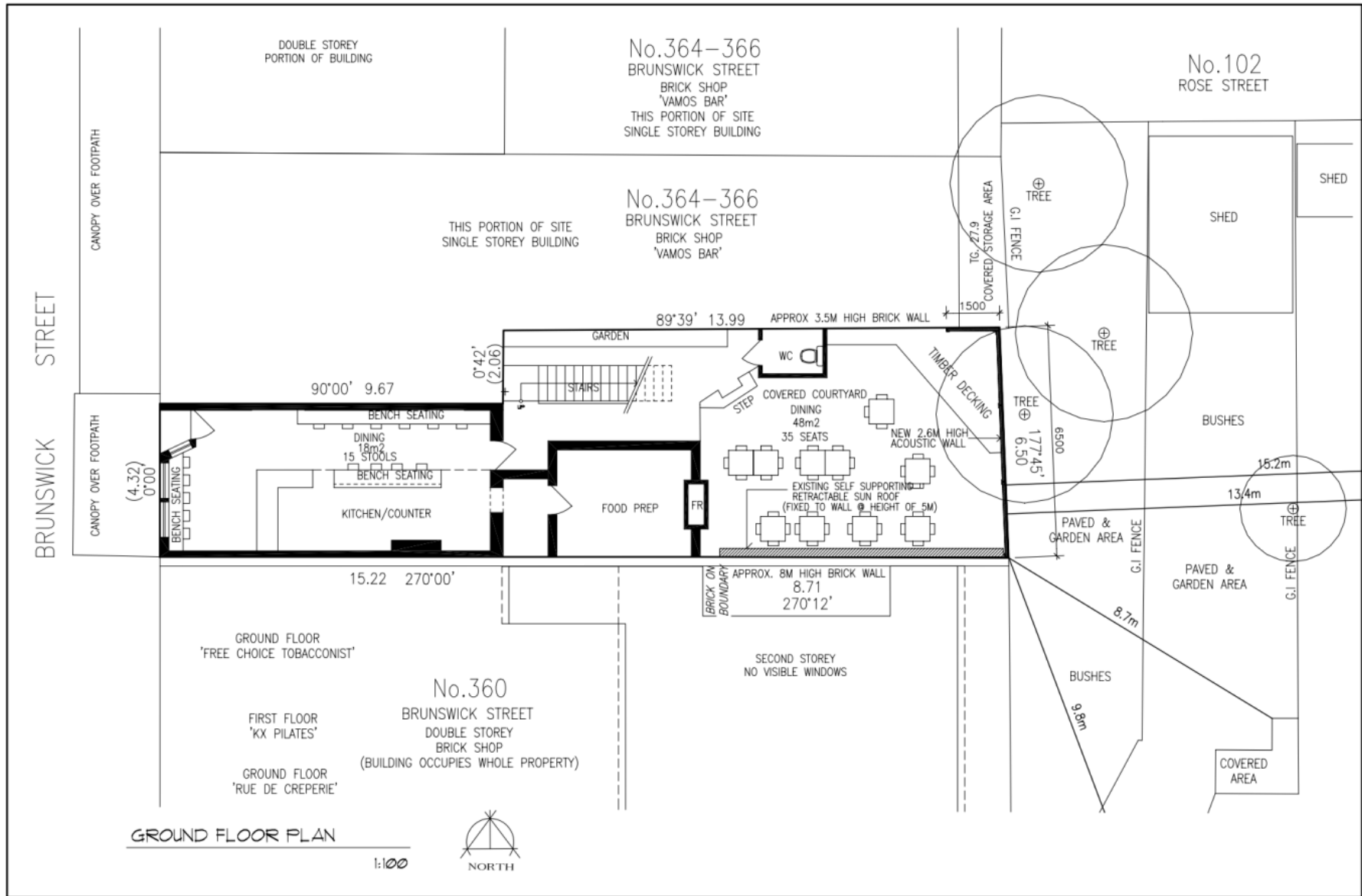
**GENERAL NOTES:**  
 THIS PLAN IS THE PROPERTY OF OGT SOLUTIONS PTY LTD AND IS SUBJECT TO COPYRIGHT. IT IS NOT TO BE COPIED OR VARIED IN WHOLE OR IN ANY PART WITHOUT WRITTEN CONSENT. FIGURED DIMENSIONS ARE TO BE TAKEN IN PREFERENCE TO SCALE.  
 THE CONTRACTOR/BUILDER IS RESPONSIBLE FOR CHECKING PLANS, LEVELS AND DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF ANY WORKS. THEY SHALL BE RESPONSIBLE FOR ENSURING THAT ALL BUILDING WORKS CONFORM TO THE BUILDING CODE OF AUSTRALIA, AS CODES (CURRENT BUILDING REGULATIONS, LOCAL BY-LAWS & TOWN PLANNING REQUIREMENTS) & REPORT.  
 ALL DISCREPANCIES SHOULD BE REPORTED TO THIS OFFICE FOR CLARIFICATION.

PROJECT LICENCED PREMISES FLOORPLAN  
 ADDRESS 362 BRUNSWICK STREET  
 FITZROY  
 MELWAY REF -  
 OWNER -

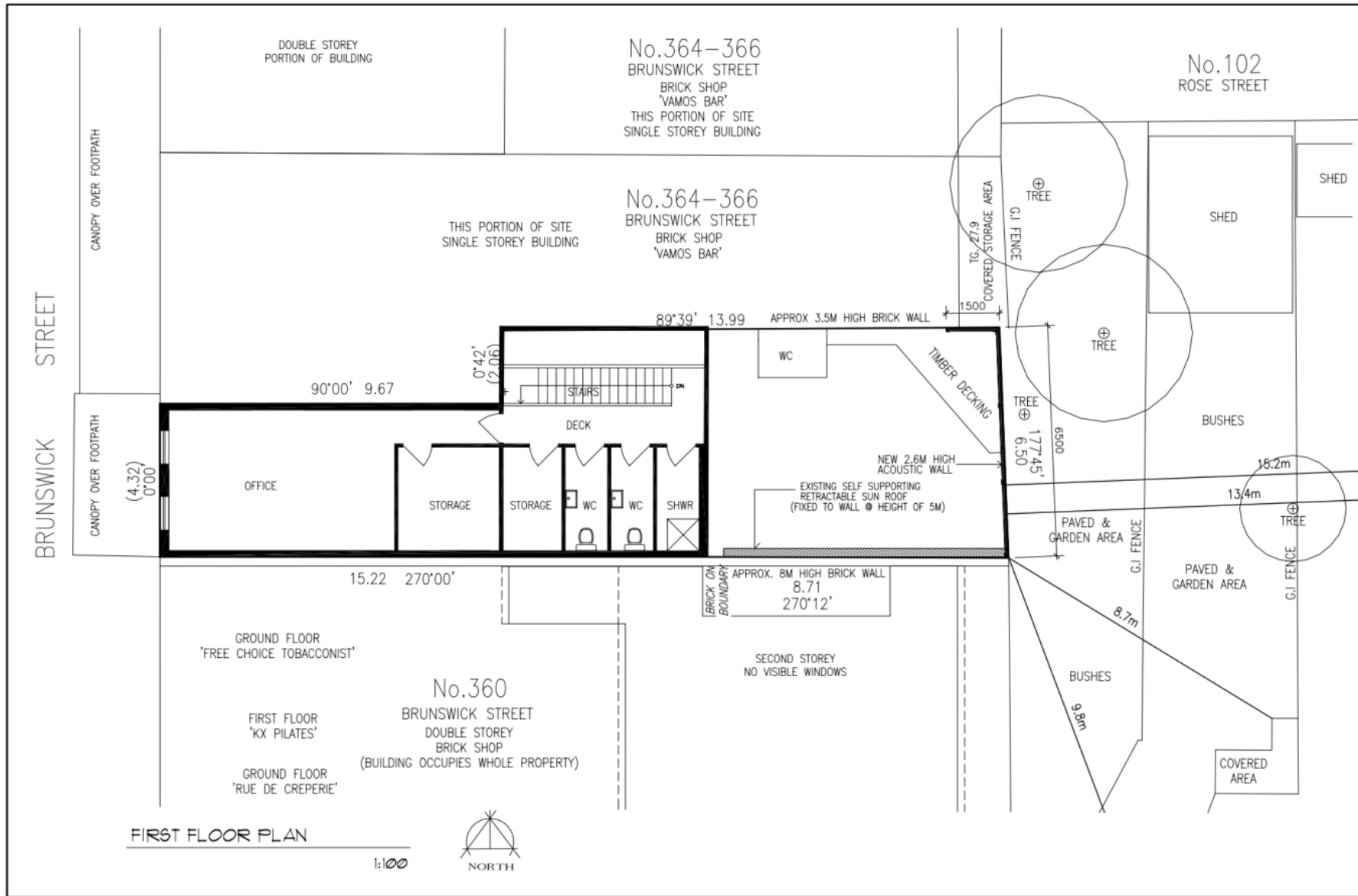
REVISIONS		
No	DATE	COMMENTS
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-

Drawn By:	TF	Drawing No.	OGT350
Date Drawn:	JUN18	Date Issued:	
Checked By:	OT	Revision No.	-
Date Checked:	JUN18	Sheet No.	2 of 5

Attachment 2 - PLN20/0403 - 362 Brunswick Street Fitzroy - Advertising S52 - Plans



Attachment 2 - PLN20/0403 - 362 Brunswick Street Fitzroy - Advertising S52 - Plans



FIRST FLOOR PLAN

1:100

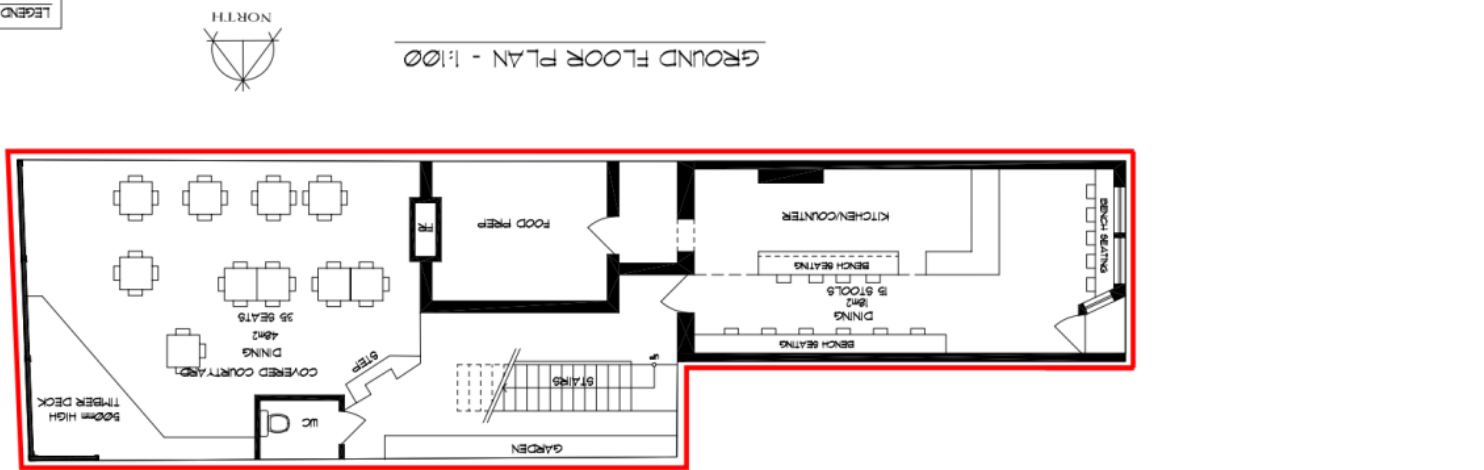
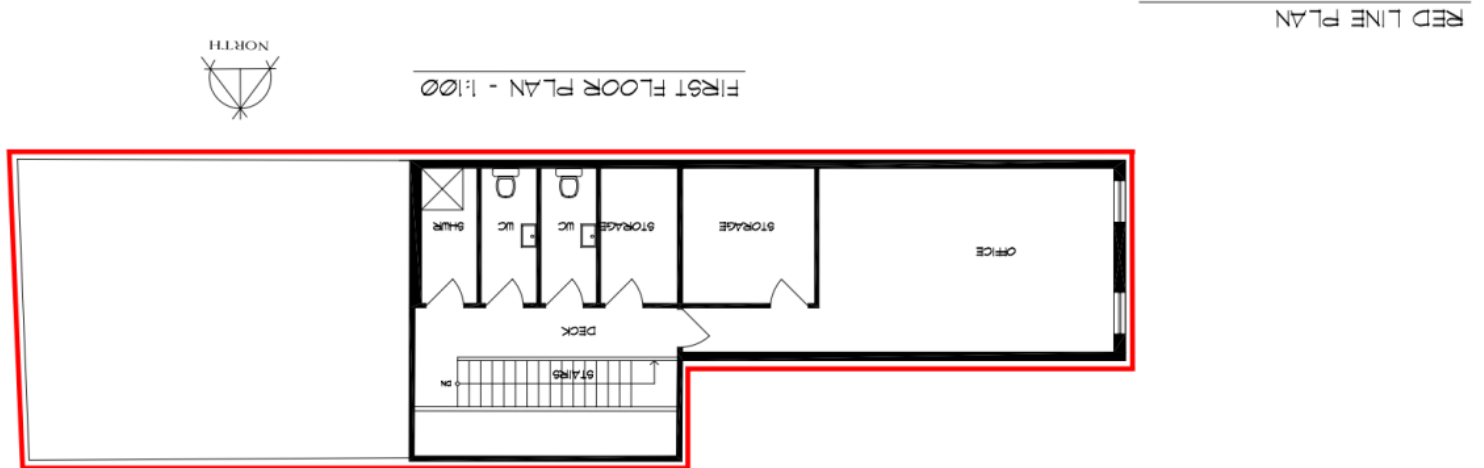


<p><b>OGT SOLUTIONS PTY LTD</b>          BUILDING DESIGN OLIVER TING RBP No. DPAD 17733          SUITE 208 LEVEL 2, 80 KEILOR ROAD ESSENDON NORTH VIC 3041          PH: (03) 9379-8722 FAX: (03) 9379-2877 MOBILE: 0411-773498          EMAIL: tomas@ogtsolutions.com.au WEBSITE: www.ogtsolutions.com.au</p>	<p><b>GENERAL NOTES:</b>          THIS PLAN IS THE PROPERTY OF OGT SOLUTIONS PTY LTD AND IS SUBJECT TO COPYRIGHT. IT IS NOT TO BE COPIED OR VARIED IN WHOLE OR IN ANY PART WITHOUT WRITTEN CONSENT. FIGURED DIMENSIONS ARE TO BE TAKEN IN PREFERENCE TO SCALE.          THE CONTRACTOR/BUILDER IS RESPONSIBLE FOR CHECKING PLANS, LEVELS AND DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF ANY WORKS. THEY SHALL BE RESPONSIBLE FOR ENSURING THAT ALL BUILDING WORKS CONFORM TO THE BUILDING CODE OF AUSTRALIA, AS CODES (CURRENT), BUILDING REGULATIONS, LOCAL BY-LAWS &amp; TOWN PLANNING REQUIREMENTS &amp; REPORT.          ALL DISCREPANCIES SHOULD BE REPORTED TO THIS OFFICE FOR CLARIFICATION.</p>		<p><b>PROJECT LICENCED PREMISES FLOORPLAN</b>          ADDRESS 362 BRUNSWICK STREET          FITZROY          MELWAY REF -          OWNER -</p>		<p><b>REVISIONS</b></p> <table border="1"> <thead> <tr> <th>No</th> <th>DATE</th> <th>COMMENTS</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-</td> <td>-</td> </tr> <tr> <td>2</td> <td>-</td> <td>-</td> </tr> <tr> <td>3</td> <td>-</td> <td>-</td> </tr> <tr> <td>4</td> <td>-</td> <td>-</td> </tr> <tr> <td>5</td> <td>-</td> <td>-</td> </tr> </tbody> </table>		No	DATE	COMMENTS	1	-	-	2	-	-	3	-	-	4	-	-	5	-	-	<p>Drawn By: TF Drawing No: OGT350          Date Drawn: JUN18 Date Issued:          Checked By: OT Revision No: -          Date Checked: JUN18 Sheet No: 4 of 5</p>	
	No	DATE	COMMENTS																							
	1	-	-																							
	2	-	-																							
	3	-	-																							
4	-	-																								
5	-	-																								

Attachment 2 - PLN20/0403 - 362 Brunswick Street Fitzroy - Advertising S52 - Plans

Drawing No. 061350		Date Issued JUN18		Checked By OT		Date Checked JUN18		Sheet No. 5 of 5	
Drawn By TF		Date Drawn JUN18		Checked By OT		Date Checked JUN18		Revision No. -	
PROJECT LICENCED PREMISES FLOORPLAN ADDRESS 362 BRUNSWICK STREET FITZROY VIC 3061 OWNER - MOUNT ROY									
No		DATE		COMMENTS					
1		-		-					
2		-		-					
3		-		-					
4		-		-					
5		-		-					

GENERAL NOTES:  
 THIS PLAN IS THE PROPERTY OF OGT SOLUTIONS PTY LTD AND IS SUBJECT TO COPYRIGHT.  
 IT IS NOT TO BE COPIED OR VARIED IN WHOLE OR IN ANY PART WITHOUT WRITTEN CONSENT.  
 THE CONTRACTOR/BUILDER IS RESPONSIBLE FOR CHECKING PLANS, LEVELS AND DIMENSIONS.  
 FIGURED DIMENSIONS ARE TO BE TAKEN IN PREFERENCE TO SCALE.  
 ALL BUILDING REGULATIONS, LOCAL BY-LAWS & TOWN PLANNING REQUIREMENTS & REPORTS  
 THAT ALL BUILDING WORKS CONFORM TO THE BUILDING CODE OF AUSTRALIA, AS CORRECTED  
 ON SITE PRIOR TO COMMENCEMENT OF ANY WORKS. THERE SHALL BE RESPONSIBLE FOR OBTAINING  
 ALL DISCREPANCIES SHOULD BE REPORTED TO THIS OFFICE FOR CLARIFICATION.  
 OGT SOLUTIONS PTY LTD  
 BUILDING DESIGN OLVER TING REP NO. DPAD 17733  
 SUITE 208 LEVEL 2, 80 KEELOR ROAD ESSESENDON NORTH VIC 3041  
 PHONE (03) 9379-8722 FAX (03) 9379-2877 MOBILE 0411-773498  
 EMAIL: tim@ogtsolutions.com.au WEBSITE: www.ogtsolutions.com.au



**Attachment 2 - PLN20/0403 - 362 Brunswick Street Fitzroy - Advertising S52 - Plans**

## Quotation

**Reference** 457  
**Date** 9th October 2020



**Creative Walls & Fencing Pty Ltd.**

PO BOX 8151  
Tameit Victoria  
3029

**To** **Swindon Town Planning**  
362 Brunswick Rd  
Fitzroy  
3065

**Tel:** 0417 985 950

**Email:** paul@creativewallsandfencing.com

---

Hi Alan

Thank you for the opportunity to quote for work at the above address, we have the pleasure of providing you with the following quotation.

Please feel free to contact us with any questions you have.

### **Modular Wall, AcoustiSorb**

Supply and Install Modular Wall AcoustiSorb Wall 8mtrs x 2.7mtrs

AcoustiSorb Panels 75mm x 2000mm x 600mm  
AcousticMax Panels 75mm x 2400mm x 300mm  
Vogue Classic Posts 250mm x 150mm x 3700mm  
Vogue Capping Channels Flush  
Vogue Posts Caps Flush  
Vogue Joining Strips  
Vogue 75mm Brackets  
Sikaflex  
Removal and Takeaway of old fence  
Scaffold  
Concrete  
Labour

Footings 450mm x 1000mm

Painting Vogue Wall with Wattyl Solarguard Optional \$800 2 coats per side  
Materials

\$12,500.00  
10% GST · \$1,250.00  
**\$13,750.00**

## Attachment 2 - PLN20/0403 - 362 Brunswick Street Fitzroy - Advertising S52 - Plans

Sub Total	\$12,500.00
GST @ 10%	\$1,250.00

**Total: \$13,750.00**

### Notes

---

PLEASE SIGN HERE TO ACCEPT QUOTATION.

---

50% REQUIRED BEFORE THE START OF THE INSTALLATION AND THE REMAINING 50% ON THE DAY OF COMPLETION. IF THE FINAL PAYMENT ISN'T MADE ON THE FINISHED DATE A 15% LATE FEE APPLIES.

IF FINAL PAYMENT ISN'T MADE THEN THE MATERIALS WILL BE REMOVE AS THE MATERIALS BELONG TO CREATIVE WALLS & FENCINGS UNTIL FINAL PAYMENT HAS BEEN MADE.

**Company Registration Number:** 612 522 577

**GST Number:** 25337385560



**Attachment 2 - PLN20/0403 - 362 Brunswick Street Fitzroy - Advertising S52 - Plans**

## Quotation

**Reference** 456  
**Date** 9th October 2020



**Creative Walls & Fencing Pty Ltd.**

PO BOX 8151  
Tameit Victoria  
3029

**To** **Swindon Town Planning**  
362 Brunswick Rd  
Fitzroy  
3065

**Tel:** 0417 985 950

**Email:** paul@creativewallsandfencing.com

Hi Alan

Thank you for the opportunity to quote for work at the above address, we have the pleasure of providing you with the following quotation.

Please feel free to contact us with any questions you have.

### **Modular Wall, Vogue Wall Classic**

Supply and Install Modular Wall Vogue Wall 8mtrs x 2.7mtrs

AcousticMax Panels 75mm x 2400mm x 900mm  
Vogue Classic Posts 250mm x 150mm x 3700mm  
Vogue Capping Channels Flush  
Vogue Posts Caps Flush  
Vogue Joining Strips  
Vogue 75mm Brackets  
Sikaflex  
Removal and Takeaway of old fence  
Scaffold  
Concrete  
Labour

Footings 450mm x 1000mm

Painting Vogue Wall with Watty! Solarguard Optional \$800 2 coats per side  
Materials

\$8,500.00  
10% GST - \$850.00  
**\$9,350.00**

**Attachment 2 - PLN20/0403 - 362 Brunswick Street Fitzroy - Advertising S52 - Plans**

Sub Total	\$8,500.00
GST @ 10%	\$850.00

**Total: \$9,350.00**

**Notes**

---

PLEASE SIGN HERE TO ACCEPT QUOTATION.

---

50% REQUIRED BEFORE THE START OF THE INSTALLATION AND THE REMAINING 50% ON THE DAY OF COMPLETION. IF THE FINAL PAYMENT ISN'T MADE ON THE FINISHED DATE A 15% LATE FEE APPLIES.

IF FINAL PAYMENT ISN'T MADE THEN THE MATERIALS WILL BE REMOVE AS THE MATERIALS BELONG TO CREATIVE WALLS & FENCINGS UNTIL FINAL PAYMENT HAS BEEN MADE.

**Company Registration Number:** 612 522 577

**GST Number:** 25337385560



# 362 BRUNSWICK ST, FITZROY

## Acoustic Assessment

Swindon Town Planning

15 MARCH 2021



**Attachment 3 - PLN20/0403 - 362 Brunswick Street Fitzroy - Acoustic Report PDF**



Octave Acoustics  
 ABN 60 615 372 873  
 Ph +61 3 9492 5990  
 1A, 3 Harris Street, Yarraville  
 Melbourne, Vic 3013



Project 362 Brunswick St, Fitzroy  
 Client Swindon Town Planning  
 Document number AB331ME-01E02 Acoustic Assessment (r0)

Revision	Date	Comment	Author	Reviewer
0	15.03.2021	Issued to client	NT	TM
<p><i>Disclaimer:</i></p> <p><i>The information contained within this document has been prepared by Octave Acoustics Pty Ltd under briefing instructions, caveats and terms and conditions accepted by both the Client and Octave Acoustics Pty Ltd. The information contained within this document should not be relied upon by any third parties or applied under any context other than that described within this document.</i></p> <p><i>The information within this report shall remain the property of Octave Acoustics Pty Ltd. Octave Acoustics Pty Ltd shall retain all common law, statutory and other reserved rights, including copyright thereto. As such the information contained within this report should not be distributed to third parties without the written consent of Octave Acoustics Pty Ltd.</i></p>				

362 Brunswick St, Fitzroy  
 Acoustic Assessment

AB331ME-01E02 Acoustic Assessment (r0)  
 i



## Table of Contents

1	Introduction .....	1
2	Site Investigation.....	2
3	Criteria.....	4
3.1	Patron Noise.....	4
3.1.1	Quasi-steady state criteria .....	4
3.1.2	Transient Criteria .....	4
4	Assessment and Recommendations .....	6
4.1	Noise Modelling .....	6
4.2	Patron Noise.....	6
4.2.1	Quasi-Steady State Assessment .....	7
5	Conclusion.....	7
Appendix A:	Glossary of Acoustic Terms .....	9
Appendix B:	Acoustic Fence Mark-Up .....	14



## 1 Introduction

Octave Acoustics was engaged by Swindon Town Planning to provide an acoustic assessment of patron noise impacts relating to the operation of an outdoor area at Tahina Restaurant, located at 362 Brunswick St, Fitzroy (Subject Venue/Subject Site) in support of a town planning application for City of Yarra.

It is understood that this outdoor area has a licensed capacity of 35 patrons, and operates until 9pm everyday except public holidays. It is further understood that a 2.6m high fence is proposed to be constructed at the rear boundary, replacing the existing 1.8m high fence.

The Subject Site is zoned C1Z (Commercial 1 zone) and to the east of the site is zoned NRZ1 (Neighbourhood Residential Zone 1). The potentially most affected residential receivers are the residential properties located to the east of the restaurant, at 107 Kerr St as shown in Figure 1. Compliance with noise criteria at this location is expected to result in compliance at all other potentially affected residential receivers. This document provides a summary of the assessment and resulting findings.



## 2 Site Investigation

Octave Acoustics placed an unattended noise logger on site to record noise levels from Thursday the 4<sup>th</sup> of February to Thursday the 11<sup>th</sup> of February 2021. However, it was found that the recordings were affected by plant noise emanating from an adjoining building. As such, an additional attended measurement was conducted on Monday the 1<sup>st</sup> of March 2021 from 10pm to 10.30pm at the nearest representative location, which was in the carpark behind the adjacent residence (refer "Measurement Location" in Figure 1). Plant noise was not clearly audible in this location.

It has been observed that there are a few venues playing music until late along Brunswick St, across from Tahina, however, it was inaudible at any of the measurement locations.

Monitoring was carried out using an NTI XL2 sound level meter which was calibrated before and after the assessment periods using a Bruel & Kjaer 4230 calibrator. No drift in calibration was detected. The NTI XL2 complies with the requirements of IEC 61672-1:2004 Sound Level Meters and is classified as a Class 1 instrument. The calibrator complies with the requirements of IEC 60942:2004 Sound Calibrators. The XL2 carried current manufacturer's certification and the calibrator carried current NATA certification.

Attachment 3 - PLN20/0403 - 362 Brunswick Street Fitzroy - Acoustic Report PDF



FIGURE 1 – SITE CONTEXT





### 3 Criteria

#### 3.1 Patron Noise

There are no mandatory criteria or guidelines for the assessment of patron noise in the state of Victoria. Victorian members of the Association of Australasian Acoustical Consultants (AAAC) have conferred in an attempt to define an appropriate assessment framework, however, consensus has not been reached.

Assessment of patron noise in Victoria typically consists of two assessments, the first for the quasi-steady state nature of the noise, the second for transient events. The quasi-steady state assessment relates to what might otherwise be referred to as the ‘general babble’ noise of a crowd, whereas the transient assessment applies to maximums associated with intermittent loud laughter or shouting.

Octave Acoustics adopts noise trigger levels with which to assess patron noise against during the evening period. Experience shows that patron noise levels lower than the set trigger levels result in acceptable amenity outcomes. Patron noise levels exceeding a trigger requires specific consideration of the context, nature and magnitude in order to determine whether amenity impacts may be unreasonable. Patron noise assessment criteria adopted by Octave Acoustics are set out in Section 3.1.1 and 3.1.2 below. This is in accordance with the “MDA approach” listed in the document Guidelines – Managing Noise Impacts in Urban Development dated October 2019, published by City of Yarra.

##### 3.1.1 Quasi-steady state criteria

TABLE 1 – QUASI-STEADY STATE PATRON NOISE TRIGGERS

Period	Time	Minimum Ambient Background, dB LA90	Criteria Adjustment	Trigger Level, dB LAeq
Evening	9pm	41 <sup>1</sup>	+10	51
Notes:	1. 30 min LA90 measured after the Subject Venue had closed. This was measured between 10pm-10.30pm on Monday 1 <sup>st</sup> of March 2021.			

##### 3.1.2 Transient Criteria

Octave Acoustics applies sleep disturbance triggers to the assessment of transient patron noise. Whilst there are currently no policies or guidelines in Victoria for the assessment of sleep disturbance, VCAT typically accepts triggers defined in accordance with the NSW Environmental Criteria for Road Traffic Noise 1999 (ECTRAN). The ECTRAN concludes that:

**Attachment 3 - PLN20/0403 - 362 Brunswick Street Fitzroy - Acoustic Report PDF**



- *Maximum internal noise levels below 50-55dB(A) are unlikely to awaken people from sleep; and*
- *One or two noise events per night, with maximum internal noise levels of 65-70dB(A) are not likely to affect health and wellbeing significantly*

These triggers are usually only applied between the hours 10pm to 7am. Where residential windows may be open for ventilation, it is generally accepted that the noise reduction via the open window is 10dB(A). Therefore, external noise levels need to exceed sleep disturbance triggers by more than 10dB(A) to warrant further assessment.

TABLE 2 – SLEEP DISTURBANCE NOISE TRIGGERS

Bedroom Trigger Level, dB L <sub>Amax</sub>	Correction for Outdoor Level	Associated Outdoor Trigger Level, dB L <sub>Amax</sub>
50-55	+10 dB	60-65

As the use of outdoor area is not proposed within the night period (e.g. ceases operation at 9pm), transient events are not considered within this report.



## 4 Assessment and Recommendations

### 4.1 Noise Modelling

A 3-D computer noise model of the restaurant, the outdoor area and residential dwellings to the east, behind the restaurant was built in CadnaA software and calculations run implementing the ISO9613 algorithms. The ISO9613 algorithms calculate the propagation of noise between source and receiver taking into account propagation effects associated with:

- Source sound power;
- Geometrical spreading;
- Atmospheric conditions;
- Air-absorption;
- Ground absorption (ground absorption was set to 0 in the model for the assessment);
- Reflections; and
- Barrier effects associated with the built form of the Subject Venue

### 4.2 Patron Noise

Sound power levels for patrons were calculated using the method described by Hayne et al. in *Prediction of Noise from Small to Medium Sized Crowds* (2011), but adjusted by increasing sound power levels by a further 5dB to account for influences associated with the consumption of alcohol and the provision of food. The resulting patron sound power levels are presented in Table 3.

TABLE 3 – PATRON SOUND POWER LEVELS, LEQ RE 10<sup>-12</sup> WATTS

Location	Number of Patrons	SWL, dB(A)	Octave Band Center Frequency (Hz)						
			63	125	250	500	1000	2000	4000
Outdoor Area	35 Max	92	80	80	85	91	88	83	75

The patron sound source was set to a height of 1.2m above ground level in the model to represent patrons seated at the tables. Patron noise levels at the façade of the residential property overlooking the outdoor area was calculated using the CadnaA model. The results of modelling were compared with the applicable patron noise triggers.



#### 4.2.1 Quasi-Steady State Assessment

The resulting analysis of quasi-steady state noise, incorporating the proposed 2.6m high perimeter fence, is presented below in Table 4.

TABLE 4 - QUASI-STEADY STATE PATRON NOISE ASSESSMENT – 2.6M FENCE

Time of Assessment	Trigger Level (dB, L <sub>Aeq</sub> )	Patron Noise Level at apartment (dB, L <sub>Aeq</sub> )	Further Consideration Required?	Resulting Impact Considered Acceptable?
9pm	51	51	No	Yes

It is recommended that the acoustic fence be installed to the extent shown in Appendix B: and according to the following specification to mitigate patron noise levels at the nearest façade:

- The fence should be constructed at a height of 2.6m using either lapped timber paling, fibre cement sheeting, lightweight aerated concrete, transparent acrylic panels, glass, profiled sheet cladding or roofing materials as long the selected material (or combined skins) has a surface density of at least 12kg/m<sup>2</sup>;
- The fence shall have no gaps or holes in it, or the likelihood of such occurring through natural causes or deformations, thus allowing noise to pass through;
- The boundary fence must be designed and built in an acceptable manner so that noise will not pass underneath it;
- It is preferable that the selected cladding is pre-fabricated to be jointed with an overlap or rebated joint (e.g. ship lapped);
- Where the above requirement cannot be met, any butt joints shall be sealed with a fire-rated weatherproof mastic or an overlapping piece of material meeting the mass requirements of 12kg/m<sup>2</sup> (minimum 35mm each side of the butt joint);
- Where acoustic timber palings are installed, all palings shall overlap by a minimum of 35mm;
- Where multiple cladding layers are used (e.g. FC sheeting over timber paling screen, or the roofing system), joints in the cladding materials shall not coincide.

## 5 Conclusion

Octave Acoustics has carried out an assessment of potential patron noise impacts associated with the outdoor area at the Tahina restaurant, located at 362 Brunswick St, Fitzroy. The potentially most affected residential receivers are located approximately 15m directly to the east of the Subject Venue. Compliance with noise criteria at this location is expected to result in compliance at all other potentially affected residential receivers.

**Attachment 3 - PLN20/0403 - 362 Brunswick Street Fitzroy - Acoustic Report PDF**



Noise modelling indicates that noise transmission from the patrons in the outdoor area of the Subject Venue will comply with the noise trigger levels if an acoustic fence is installed at the back courtyard boundary of the facade as specified in Section 4.2.1.



## Appendix A: Glossary of Acoustic Terms

### 'A' FREQUENCY WEIGHTING

The 'A' frequency weighting roughly approximates to the Fletcher-Munson 40 phon equal loudness contour. The human loudness perception at various frequencies and sound pressure levels is equated to the level of 40 dB at 1 kHz. The human ear is less sensitive to low frequency sound and very high frequency sound than midrange frequency sound (i.e. 500 Hz to 6 kHz). Humans are most sensitive to midrange frequency sounds, such as a child's scream. Sound level meters have inbuilt frequency weighting networks that very roughly approximates the human loudness response at low sound levels. It should be noted that the human loudness response is not the same as the human annoyance response to sound. Here low frequency sounds can be more annoying than midrange frequency sounds even at very low loudness levels. The 'A' weighting is the most commonly used frequency weighting for occupational and environmental noise assessments. However, for environmental noise assessments, adjustments for the character of the sound will often be required.

### AMBIENT NOISE

The ambient noise level at a particular location is the overall environmental noise level caused by all noise sources in the area, both near and far, including all forms of traffic, industry, lawnmowers, wind in foliage, insects, animals, etc. Usually assessed as an energy average over a set time period 'T' ( $L_{Aeq,T}$ ).

### AUDIBLE

Audible refers to a sound that can be heard. There are a range of audibility grades, varying from "barely audible", "just audible" to "clearly audible" and "prominent".

### BACKGROUND NOISE LEVEL

Total silence does not exist in the natural or built-environments, only varying degrees of noise. The Background Noise Level is the minimum repeatable level of noise measured in the absence of the noise under investigation and any other short-term noises such as those caused by all forms of traffic, industry, lawnmowers, wind in foliage, insects, animals, etc. It is quantified by the noise level that is exceeded for 90 % of the measurement period 'T' ( $L_{A90,T}$ ). Background Noise Levels are often determined for the day, evening and night time periods where relevant. This is done by statistically analysing the range of time period (typically 15 minute) measurements over multiple days (often 7 days). For a 15-minute measurement period the Background Noise Level is set at the quietest level that occurs at 1.5 minutes.

### 'C' FREQUENCY WEIGHTING

The 'C' frequency weighting approximates the 100 phon equal loudness contour. The human ear frequency response is more linear at high sound levels and the 100 phon equal loudness



contour attempts to represent this at various frequencies at sound levels of approximately 100 dB.

#### **DECIBEL**

The decibel (dB) is a logarithmic scale that allows a wide range of values to be compressed into a more comprehensible range, typically 0 dB to 120 dB. The decibel is ten times the logarithm of the ratio of any two quantities that relate to the flow of energy (i.e. power). When used in acoustics it is the ratio of the square of the sound pressure level to a reference sound pressure level, the ratio of the sound power level to a reference sound power level, or the ratio of the sound intensity level to a reference sound intensity level. See also Sound Pressure Level and Sound Power Level. Noise levels in decibels cannot be added arithmetically since they are logarithmic numbers. If one machine is generating a noise level of 50 dB, and another similar machine is placed beside it, the level will increase to 53 dB (from  $10 \log_{10}(10^{(50/10)} + 10^{(50/10)})$ ) and not 100 dB. In theory, ten similar machines placed side by side will increase the sound level by 10 dB, and one hundred machines increase the sound level by 20 dB. The human ear has a vast sound-sensitivity range of over a thousand billion to one, so the logarithmic decibel scale is useful for acoustical assessments.

dBA – See 'A' frequency weighting

dB(C) – See 'C' frequency weighting

#### **EQUIVALENT CONTINUOUS SOUND LEVEL, $L_{Aeq}$**

Many sounds, such as road traffic noise or construction noise, vary repeatedly in level over a period of time. More sophisticated sound level meters have an integrating/averaging electronic device inbuilt, which will display the energy time-average (equivalent continuous sound level -  $L_{Aeq}$ ) of the 'A' frequency weighted sound pressure level. Because the decibel scale is a logarithmic ratio, the higher noise levels have far more sound energy, and therefore the  $L_{Aeq}$  level tends to indicate an average which is strongly influenced by short-term, high level noise events. Many studies show that human reaction to level-varying sounds tends to relate closer to the  $L_{Aeq}$  noise level than any other descriptor.

#### **'F'(FAST) TIME WEIGHTING**

Sound level meter design-goal time constant which is 0.125 seconds.

#### **FREE FIELD**

In acoustics a free field is a measurement area not subject to significant reflection of acoustical energy. A free field measurement is typically not closer than 3.5 metres to any large flat object (other than the ground) such as a fence or wall or inside an anechoic chamber.

#### **FREQUENCY**

The number of oscillations or cycles of a wave motion per unit time, the SI unit is the hertz (Hz). 1 Hz is equivalent to one cycle per second. 1000 Hz is 1 kHz.



**LOUDNESS**

The volume to which a sound is audible to a listener is a subjective term referred to as loudness. Humans generally perceive an approximate doubling of loudness when the sound level increases by about 10 dB and an approximate halving of loudness when the sound level decreases by about 10 dB.

**MAXIMUM NOISE LEVEL, LAFmax**

The root-mean-square (rms) maximum sound pressure level measured with sound level meter using the 'A' frequency weighting and the 'F' (Fast) time weighting. Often used for noise assessments other than aircraft.

**MAXIMUM NOISE LEVEL, LASmax**

The root-mean-square (rms) maximum sound pressure level measured with sound level meter using the 'A' frequency weighting and the 'S' (Slow) time weighting. Often used for aircraft noise assessments.

**NOISE**

Noise is unwanted, harmful or inharmonious (discordant) sound. Sound is wave motion within matter, be it gaseous, liquid or solid. Noise usually includes vibration as well as sound.

**OFFENSIVE NOISE**

Reference: Dictionary of the NSW Protection of the Environment Operations Act 1997).

"Offensive Noise means noise:

(a) that, by reason of its level, nature, character or quality, or the time at which it is made, or any other circumstances:

(i) is harmful to (or likely to be harmful to) a person who is outside the premise from which it is emitted, or

(ii) interferes unreasonably with (or is likely to interfere unreasonably with) the comfort or repose of a person who is outside the premises from which it is emitted, or

(b) that is of a level, nature, character or quality prescribed by the regulations or that is made at a time, or in other circumstances prescribed by the regulations."

**'S' (SLOW) TIME WEIGHTING**

Sound level meter design-goal time constant which is 1 second.

**SOUND ATTENUATION**

A reduction of sound due to distance, enclosure or some other device. If an enclosure is placed around a machine, or an attenuator (muffler or silencer) is fitted to a duct, the noise emission





is reduced or attenuated. An enclosure that attenuates the noise level by 20 dB reduces the sound energy by one hundred times.

#### **SOUND EXPOSURE LEVEL (LAE)**

Integration (summation) rather than an average of the sound energy over a set time period. Use to assess single noise events such as truck or train pass by or aircraft flyovers. The sound exposure level is related to the energy average ( $L_{Aeq,T}$ ) by the formula  $L_{Aeq,T} = LAE - 10 \log_{10} T$ . The abbreviation (SEL) is sometimes inconsistently used in place of the symbol (LAE).

#### **SOUND PRESSURE**

The rms sound pressure measured in pascals (Pa). A pascal is a unit equivalent to a newton per square metre ( $N/m^2$ ).

#### **SOUND PRESSURE LEVEL, $L_p$**

The level of sound measured on a sound level meter and expressed in decibels (dB). Where  $L_p = 10 \log_{10}(P_a/P_o)^2$  dB (or  $20 \log_{10}(P_a/P_o)$  dB) where  $P_a$  is the rms sound pressure in Pascal and  $P_o$  is a reference sound pressure conventionally chosen is  $20 \mu Pa$  ( $20 \times 10^{-6}$  Pa) for airborne sound.  $L_p$  varies with distance from a noise source.

#### **SOUND POWER**

The rms sound power measured in watts (W). The watt is a unit defined as one joule per second. A measures the rate of energy flow, conversion or transfer.

#### **SOUND POWER LEVEL, $L_w$**

The sound power level of a noise source is the inherent noise of the device. Therefore, sound power level does not vary with distance from the noise source or with a different acoustic environment.  $L_w = L_p + 10 \log_{10} 'a'$  dB,

re:  $1pW$ , ( $10^{-12}$  watts) where 'a' is the measurement noise-emission area ( $m^2$ ) in a free field.

#### **SOUND TRANSMISSION LOSS**

The amount in decibels by which a random sound is reduced as it passes through a sound barrier. A method for the measurement of airborne Sound Transmission Loss of a building partition is given in Australian Standard AS1191 - 2002.

#### **STATISTICAL NOISE LEVELS, $L_n$**

Noise which varies in level over a specific period of time 'T' (standard measurement times are often 15-minute periods) may be quantified in terms of various statistical descriptors with some common examples:

The noise level, in decibels, exceeded for 1% of the measurement time period, when 'A' frequency weighted and 'F' time weighted is reference to as  $L_{AF1,T}$ . This may be used for describing short-term noise levels such as could cause sleep arousal during the night.



The noise level, in decibels, exceeded for 10% of the measurement time period, when 'A' frequency weighted and 'F' time weighted is reference to as  $L_{AF10,T}$ . In most countries the  $L_{AF10,T}$  is measured over periods of 15 minutes, and is used to describe the average maximum noise level.

The noise level, in decibels, exceeded for 90% of the measurement time period, when 'A' frequency weighted and 'F' time weighted is reference to as  $L_{AF90,T}$ . In most countries the  $L_{AF90,T}$  is measured over periods of 15 minutes, and is used to describe the average minimum or background noise level.

#### **WEIGHTED SOUND REDUCTION INDEX, $R_w$**

This is a single number rating of the airborne sound insulation of a wall, partition or ceiling. The sound reduction is normally measured over a frequency range of 100 Hz to 3.150 kHz and averaged in accordance with ISO standard weighting curves (Refer AS/NZS 1276.1:1999). Internal partition wall  $R_w+C$  ratings are frequency weighted to simulate insulation from human voice noise. The  $R_w+C$  is similar in value to the STC rating value. External walls, doors and windows may be  $R_w+C_{tr}$  rated to simulate insulation from road traffic noise. The spectrum adaptation term  $C_{tr}$  adjustment factor takes account of low frequency noise. The weighted sound reduction index is normally similar or slightly lower number than the STC rating value.

#### **'Z' FREQUENCY WEIGHTING**

The 'Z' (Zero) frequency weighting is 0 dB within the nominal 1/3 octave band frequency range centred on 10 Hz to 20 kHz. This is within the tolerance limits given in AS IEC 61672.1-2004: 'Electroacoustics - Sound level meters – Specifications'.



## Appendix B: Acoustic Fence Mark-Up

Attachment 3 - PLN20/0403 - 362 Brunswick Street Fitzroy - Acoustic Report PDF





19 April 2021

640.10090.06830 362 Brunswick St Fitzroy 20210419.docx

Yarra City Council  
PO Box 168  
RICHMOND 3121

**Attention: Joe Byrne**

Dear Joe

**362 Brunswick Street, Fitzroy  
Development Application Acoustic Review  
PLN 20/0403**

SLR Consulting Pty Ltd (SLR) has been retained by the City of Yarra to provide a review of the acoustic assessment report for the proposed changes to the operation of the restaurant at 362 Brunswick Street, Fitzroy.

Details of the report are as follows.

- Title: 362 Brunswick Street, Fitzroy, Acoustic Assessment
- Reference: AB331ME-01E02 Acoustic Assessment (r0)
- Date: 15 March 2021
- Prepared for: Swindon Town Planning
- Prepared by: Octave Acoustics

The report has been prepared to address noise impacts from the proposed outdoor patron area of the existing restaurant at the subject address.

## **1 Background Information**

*(Sections 1, of the acoustic report)*

The venue is proposing to create an outdoor patron area. Details of the proposal are as follows:

- Patron capacity: 35
- Hours of operation, up to 9 pm daily
- Potentially most impacted noise sensitive receiver is identified as the apartment development at 107 Kerr Street.
- A 2.6 m high fence is proposed to be constructed to replace the existing 1.8 m high fence.

**Attachment 4 - PLN20/0403 - 362 Brunswick Street Fitzroy - SLR Acoustic Review PDF**

Yarra City Council  
362 Brunswick Street, Fitzroy  
Development Application Acoustic Review  
PLN 20/0403

SLR Ref: 640.10090.06830 362 Brunswick St Fitzroy  
20210419.docx  
Date: 19 April 2021

**SLR Comments:** From our review of the area, the land between the subject site and the residential development at 107 Kerr Street is private open space for the dwellings at 101, 103 and 105 Kerr Street. However, the development at 107 Kerr Street appears to be three levels high and upper levels may consequently have more exposure to noise from the proposed outdoor area than ground level receivers in the private open space of 101, 103 and 105 Kerr Street. As such, 107 Kerr Street is likely to be the most impacted receiver location.

Octave have clarified to us via email that they have assessed noise to ground and level one receivers at 107 Kerr Street. This is a reasonable approach as, from the photo provided by Octave, the third level of 107 Kerr Street does not have windows in the western façade.

The outdoor patron area is described on the plans as having a retractable sun roof fixed to the existing south wall at a height of 5 m. The area is also described on the plans as being 'covered courtyard dining'. Octave have clarified that the roof over the outdoor patron area is shade cloth / acoustically transparent. As such, its presence is not expected to affect sound propagation from the area.

A photo of the outdoor patron area looking towards the nearest noise sensitive receiver, as provided to us by Octave, is included below.



## 2 Background noise measurements

(Sections 2 and 3.1.1 of the acoustic report)

Attended measurements of background noise were conducted on Monday 1 March 2021 from 10 pm to 10:30 pm, in the carpark east of 107 Kerr Street. Mechanical plant and music noise from nearby businesses were noted to be inaudible at this location. The measured noise level was 41 dBA L90.

**SLR Comments:** The measurement time and location is reasonable for providing a conservative estimation of background noise levels at upper levels of 107 Kerr Street.

**Attachment 4 - PLN20/0403 - 362 Brunswick Street Fitzroy - SLR Acoustic Review PDF**

Yarra City Council  
362 Brunswick Street, Fitzroy  
Development Application Acoustic Review  
PLN 20/0403

SLR Ref: 640.10090.06830 362 Brunswick St Fitzroy  
20210419.docx  
Date: 19 April 2021

### 3 Patron noise criteria

*(Section 3 of the report)*

Patron noise is proposed to be assessed to Leq targets of 'background + 10 dB'. The identified limit (described as a trigger level) is 51 dBA Leq. Patron noise has not been assessed to  $L_{max}$  / sleep disturbance targets due to the fact that the outdoor patron area is not proposed to be used at night.

**SLR Comments:** *The proposed criteria are reasonable.*

### 4 Patron noise assessment

*(Section 4 of the report)*

A computer noise model has been prepared to predict patron noise to the identified sensitive receiver location. A sound power level of 92 dBA has been assumed for the 35 patrons. The level is based on predictive algorithms provided in a paper prepared by Hayne et al. for 'Noise from Small to Medium Sized Crowds'. The calculated sound power level has been increased by a further 5 dB to allow for the effects of alcohol.

Patron noise has been modelled as a source at 1.2 m high.

A noise level of 51 dBA is predicted at the façade of 107 Kerr Street, which is noted to comply with the identified trigger level.

Octave provide advice for the proposed fence to assist in noise control. The location and extent of the fence is shown in Appendix B.

**SLR Comments:** *The proposed patron sound power level is considered reasonable for an outdoor crowd of 35 people.*

*Our indicative calculations of noise to first floor receivers at 107 Kerr Street agree with Octave's.*

### 5 Summary

SLR Consulting Australia has reviewed the acoustic report prepared to support the proposed outdoor patron area at the restaurant at 362 Brunswick Street, Fitzroy.

In our opinion the report addresses noise impacts from the proposal and use of the area during the times proposed would be acceptable.

Regards,



Dianne Williams  
Principal – Acoustics

Reviewed by JA

**Attachment 5 - PLN20/0403 - 362 Brunswick Street Fitzroy - Advertising S52 - Noise and Amenity Action Plan**

5 November 2020



36 Mountain View Road  
Montmorency Victoria 3094  
Mobile 0411 226 606  
Fax 03 9435 2909  
Email [aswindon1@bigpond.com](mailto:aswindon1@bigpond.com)

**NOISE & AMENITY ACTION PLAN**

**Tahina Fitzroy 362 Brunswick Street Fitzroy 3065**

1. It is intended to conduct the business by an experienced operator who already has a similar licensed cafe in High Street Northcote i.e. the dominant activity is the serving of food in the form of traditional and modern Middle Eastern cuisine.
2. Noise is to be limited to conversations among patrons. There is to be no internal or external amplified music, only background music. Entry and exit is via Brunswick Street.
3. The dining area is situated at the front of the premises fronting Brunswick Street and in a rear courtyard. The premises backs onto Residential uses to the east. The nearest habitable rooms would be some 30 metres east of the frontage of the cafe and separated by the open space of three backyards of homes fronting Kerr Street. These spaces act as a buffer in the event of potential noise.
4. A manager of the business will be on duty at all times when the premises are trading, and will act positively to any harmful noise source that may arise. The manager will ensure that satisfactory commercial, occupational and residential harmony is maintained, so as to avoid a detrimental impact on the existing amenity. Staff will report any complaints to the appointed manager who will liaise directly with the complainant, as practicable as possible, with the aim of achieving an expeditious resolution of the complaint, for all parties concerned.
5. There will be a staggering of rostering of staff with an anticipated maximum of five persons on duty at any one time, comprising a manager, kitchen and waiting staff. The nature and capacity (50 patrons) of the business will not require security staff.
6. All staff dispensing liquor will be required to complete the one day responsible Serving of Alcohol course at an approved training institution or through an approved provider by the Director of Liquor Licensing. The operator has completed the Licensee's First Step Course, which is in addition to the above RSA course. Staff will not serve intoxicated patrons and staff will have an adequate understanding of liquor law and best practice in managing the licensed premises.



**Attachment 5 - PLN20/0403 - 362 Brunswick Street Fitzroy - Advertising S52 - Noise and Amenity Action Plan**

5 November 2020



36 Mountain View Road  
Montmorency Victoria 3094  
Mobile 0411 226 606  
Fax 03 9435 2909  
Email [aswindon1@bigpond.com](mailto:aswindon1@bigpond.com)

7. The premises incorporating the Liquor licence will operate flexible trading hours to serve patrons between 10am to 9pm seven days a week. Open times will depend on demand.
8. Adequate lighting will be provided internally and externally to ensure a safe and secure environment for staff and patrons. Sufficient lighting will be available over the entry of the building to create a safe environment and easy access for patrons.
9. Security lighting for the restaurant/cafe will not be necessary as there is no rear access for the public, and the premises adjoin commercial uses to the east and north with similar adjacent uses west and south.
10. The provision of music will be at a minimum, as it is not intended to create an entertainment venue, and there will be no live bands or DJs as such. Any provision of music will be background .
11. The storage of waste bins is located in a secure waste collection area at the rear of the cafe. There will be separate recyclable bins for bottles and cardboard. Waste collection will take place twice a week. Bottles will be emptied into bins early in the evening between 6pm and 7pm and all bins will be washed regularly. Appropriate health and safety measures will be observed in accordance with the requirements of Council's Public Health Unit.
12. Any noise level emitted from mechanical equipment will comply with SEPP (Control of Noise Industrial, Commercial and Trade Premises) N1.  
Appropriate signage will be erected requesting patrons to respect other businesses, persons and residents in the neighbourhood.  
The business will be managed with the intention of avoiding conflict and detriment by maintaining the existing amenity of the area.

**Attachment 6 - PLN20/0403 - 362 Brunswick Street Fitzroy - Civic Compliance Referral Comments**

# MeMO

---

**TO:** Joe BYRNE  
**cc:**  
**FROM:** Brad Speechley  
**DATE:** 7 December 2020  
**APPLICATION:** PLN20/0403  
**SUBJECT:** Amenity Enforcement Referral

---

Dear Joe,

Thank you for your referral dated 23 November 2020, in relation to 362 Brunswick Street FITZROY.

Planning Enforcement has received complaints in relation to the 'use' of the land. The last complaint received was on the 1 April 2019, in relation to loud music noise coming from the land. I have reviewed the documentation supplied for the proposed use of the land for the sale and consumption of liquor (Restaurant and Café licence) (Monday-Sunday, 10am – 9pm, for a maximum of 50 Patrons). This proposal poses a low amenity risk, however, the Compliance Branch has concerns with the courtyard and music noise.

Although it has been noted that this is to be at a background level only we do not support any external speakers being placed in the courtyard due to the close proximity of residential properties.

Should you wish to discuss the application further, please feel free to contact me on 9205-5166.

Regards,



**Brad Speechley**  
**Senior Team Leader – Civic Compliance**

**Attachment 6 - PLN20/0403 - 362 Brunswick Street Fitzroy - Civic Compliance Referral  
Comments**