



Project No: 232291BR

**Noise Assessment
Proposed Community Centre
Kenneth Street
Tenambit, NSW**

Prepared for:

Maitland City Council

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A handwritten signature in black ink, appearing to read 'Ross Hodge', is positioned above the printed name.

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1.0 - INTRODUCTION

This report presents the results, findings and recommendations arising from an acoustic assessment of the use of the proposed Tenambit Community Centre (TCC) at Kenneth Street, Tenambit NSW (**Figure 1**).

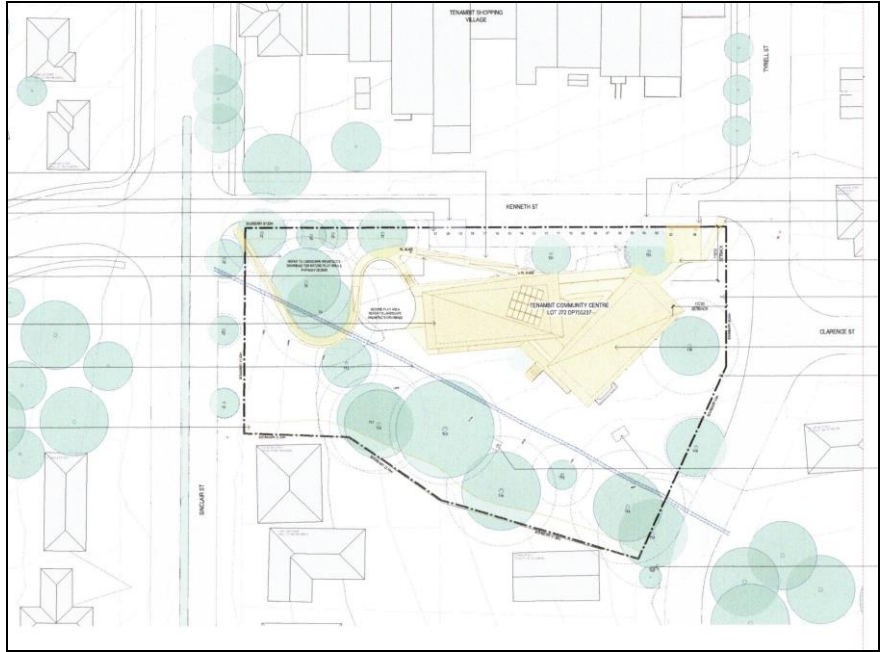


Figure 1 – Site Location

The acoustic assessment is to support a Development Application to Maitland City Council (MCC).

The proposed TCC will be housed in two buildings separated by a landscaped courtyard. It will be a purpose built facility with two Multi Purpose Rooms (MPR), a Meeting Room, and ancillary facilities. There is also to be a relatively small commercial tenancy in the western building.

The TCC will replace the existing Tenambit Community Hall.

It is proposed that the MPRs may be used for such activities as meetings, seminars, exercise classes etc. They may also be used as an entertainment venue and may be hired out for weddings and private parties.

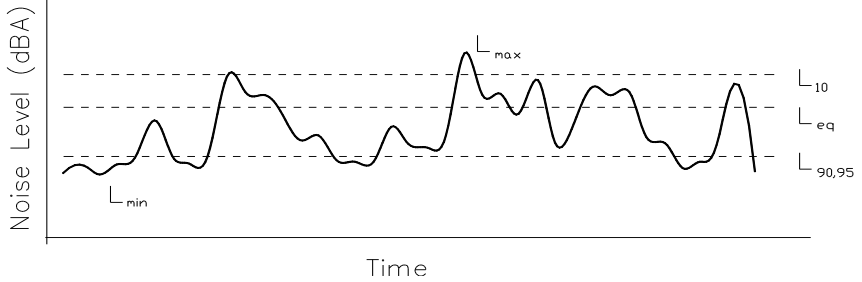
The commercial tenancy will be fitted out as a cold shell as part of the current D.A. There is no specific end user for the tenancy and, therefore, its operation will not form part of the current acoustic assessment, although general comment on the operation of the tenancy will be included.

It is proposed that the TCC may open until 10pm Sunday to Thursday and until midnight on Friday and Saturday.

2.0 - TERMS AND DEFINITIONS

Table 1 contains the definitions of commonly used acoustical terms and is presented as an aid to understanding this report.

TABLE 1 DEFINITION OF ACOUSTICAL TERMS	
Term	Definition
dB(A)	The quantitative measure of sound heard by the human ear, measured by the A-Scale Weighting Network of a sound level meter expressed in decibels (dB).
SPL	Sound Pressure Level. The incremental variation of sound pressure above and below atmospheric pressure and expressed in decibels. The human ear responds to pressure fluctuations, resulting in sound being heard.
STL	Sound Transmission Loss. The ability of a partition to attenuate sound, in dB.
Lw	Sound Power Level radiated by a noise source per unit time re 1pW.
Leq	Equivalent Continuous Noise Level - taking into account the fluctuations of noise over time. The time-varying level is computed to give an equivalent dB(A) level that is equal to the energy content and time period.
L1	Average Peak Noise Level - the level exceeded for 1% of the monitoring period.
L10	Average Maximum Noise Level - the level exceeded for 10% of the monitoring period.
L90	Average Minimum Noise Level - the level exceeded for 90% of the monitoring period and recognised as the Background Noise Level. In this instance, the L90 percentile level is representative of the noise level generated by the surrounds of the residential area.



3.0 - CRITERIA

The Office of Environment and Heritage (OEH) and MCC share responsibility for the approval and control of noise emissions from commercial and industrial premises within council boundaries. These approvals are generally based on procedures and criteria detailed in the Noise Policy for Industry (NPfI).

The NPfI doesn't contain specific procedures for the assessment of noise emissions from community centres but, in the absence of any other criteria, it is used in this assessment as a guide for determining potential impacts.

The NPfI describes intrusive and amenity criteria applicable to industrial sites. Applicable noise criteria depend on the existing background noise level at potentially affected residential receiver areas.

Ambient noise levels in the area were measured at 15 minute statistical intervals using an ARL EL316 environmental noise logger. The measurements were done in accordance with relevant OEH guidelines and AS 1055-1997 "Acoustics – Description and Measurement of Environmental Noise". The noise logger used complies with the requirements of AS 1259.2-1990 "Acoustics – Sound Level Meters", and has current NATA calibration certification.

The logger was programmed to continuously register environmental noise levels over the 15 minute intervals, with internal software calculating and storing Ln percentile noise levels for each sampling period. Calibration of the logger was performed as part of the instrument's initialisation procedures, with calibration results being within the allowable ± 0.5 dB(A) range.

The logger was located in the front yard of number 13 Sinclair Street, Tenambit (as denoted with a star in **Figure 2**) from Tuesday, August 1 until Tuesday August 8, 2023.



Figure 2 – Noise Logger Location (Community Centre shown indicatively, shaded blue)

Ambient Leq and background noise levels, obtained from the logger, are shown in **Table 2** and depicted graphically in **Appendix I**.

The NPfI specifies that in determining noise criteria background noise levels need only be used for those times when the noise source being assessed is to operate. In this instance during the night time period the centre will only operate between 10pm and midnight. As such, only the measurements for these hours have been included in the analysis for night (and shown in Table 2).

TABLE 2 MEASURED AMBIENT NOISE LEVELS 1/8/23 to 8/8/23			
Location	Day	Evening	Night
Sinclair Street	38 dB(A) L90	39 dB(A) L90	30 dB(A) L90
	54 dB(A) Leq 15 min	50 dB(A) Leq 15 min	44 dB(A) Leq 15 min

In setting noise goals for a particular project the NPfI considers both Amenity and Intrusiveness criteria. The former is set to limit continuing increase in noise from industry, whilst the latter is set to minimise the intrusive impact of a particular noise source.

Amenity criteria are dependent upon the nature of the receiver area and the existing level of industrial noise. The most potentially affected receiver area near the site would be considered “suburban” as per the definitions in the NPfI.

The Project Amenity Noise Level for an industrial development is equal to the recommended amenity noise level for a suburban area (from Table 2.2 in the NPfI) minus 2 dB(A) (as detailed in notes to **Table 3**).

The intrusiveness criteria are based on the Rating Background Level (RBL) for the time period, plus 5 dB(A). The RBL (L90) is defined as the overall single figure background level representing each assessment period.

Table 3 specifies the Project Noise Trigger Levels (noise criteria) determined for the site based on procedures in the NPfI.

TABLE 3 NOISE CRITERIA				
Location	Criterion	Day (7am-6pm)	Evening (6pm-10pm)	Night (10pm-7am)
Tenambit	Intrusiveness dB(A),Leq(15-min.) ¹	43	43 ²	35
	Amenity dB(A),Leq(15 min) ³	58	48	43
	Project Noise Trigger Levels	43 (15 min.)	43 (15 min)	35 (15 min)

1 Rating Background Level (RBL) + 5dB. RBL is the median value of each ABL (Assessment Background Level) over the entire monitoring period. The ABL is a single figure representing the “L₉₀ of the L₉₀’s” for each separate day of the monitoring period.

2. RBL for evening cannot be higher than that for day time.

3. Project amenity noise level (ANL) is suburban ANL (NPI Table 2.1) minus 5 dB(A) plus 3 dB(A) to convert from a period level to a 15-minute level.

The noise criteria (as shown in Table 3) are based on an Leq noise level. The most significant noise source at the TCC is expected to be that of amplified music associated with events in the halls.

To guide the assessment of potential adverse noise impacts, from amplified music, reference is also made to the standard noise conditions typically imposed on licensed premises by the Independent Liquor and Gaming Authority (ILGA). These conditions relate to the playing of amplified music at licenced premises, as detailed below (note that the ILGA criteria are based on an L10 noise level, and the current criteria are considered against an Leq noise level).

The noise level emitted from the premises shall not exceed the background noise level in any Octave Band Centre Frequency (31.5 Hz - 8 kHz inclusive) by more than 5 dB between 7.00 a.m. and 12.00 midnight at the boundary of any affected residence.

The background noise level adopted for the current this assessment has, therefore, been derived by calculating the background L90 from the unattended logger for the evening and night time periods and adopting a measured background octave band spectra taken from the Spectrum Acoustics technical database from measurements made in a typical

suburban area, as shown in **Table 4**. Note that the measured L90s from the logger for day/evening and night were used to develop the criteria.

TABLE 4 OCTAVE BAND CRITERIA (Leq)										
		Octave Band Centre Frequency, Hz								
	dB(A)	31.5	63	125	250	500	1k	2k	4k	8k
Day/Evening	44	29	29	31	32	38	40	37	35	32
Night	35	20	20	22	23	29	31	28	26	30

These octave band criteria will be used herein as a guideline to assessing potential noise impacts.

4.0 - NOISE ASSESSMENT

4.1 Overview

The proposed layout of the TCC is shown in **Figure 3**.

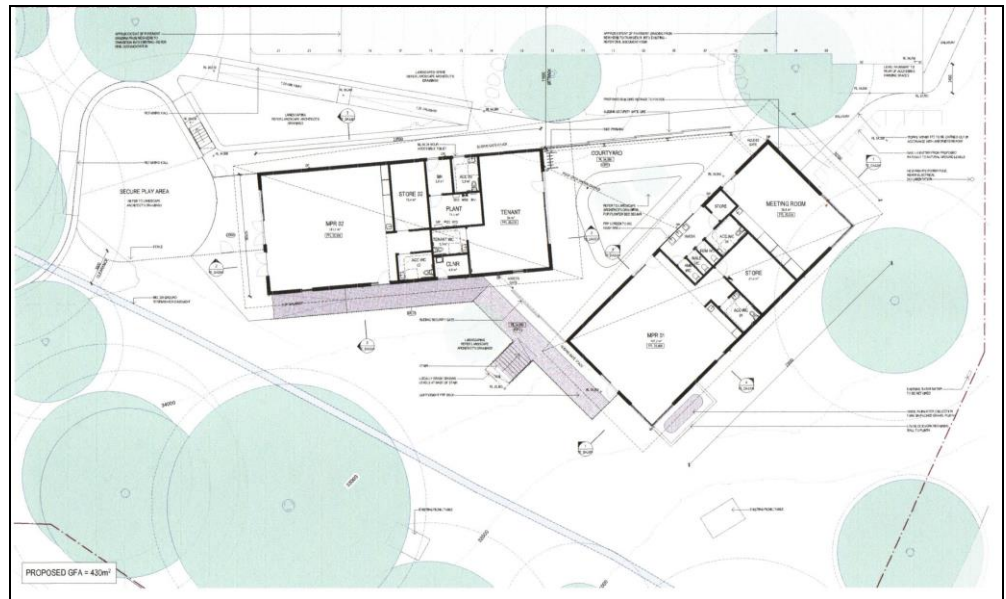


Figure 3 – Proposed Building Layout

It is envisaged that the majority of events at the TCC will be general gatherings of people for meetings, seminars and workshops etc. These will not generate significant noise and will not require any further assessment.

It is also envisaged, however, that the two Multi Purpose Rooms (MPR) may be hired out for events such as weddings or parties. This use would likely involve the use of amplified music.

As previously detailed, it is envisaged the TCC may operate between the hours between 8am and 10pm Sunday to Thursday and 8am to midnight on Friday and Saturday.

4.2 Multi Purpose Rooms (MPR's)

It is envisaged that the majority of events in the MPR's will be general gatherings of people for meetings, seminars and workshops etc. These will not generate significant noise and will not require any further assessment.

It is also envisaged, however, that the MPR's may be hired out for events such as weddings or parties. This use would likely involve the use of amplified music.

The Spectrum Acoustics technical database contains measurements of noise levels from bands playing at similar sized function centres. For the purposes of the current assessment, it is considered that music at this noise level is most likely to be played in the MPR's.

The adopted noise level for this type of entertainment is shown in **Table 5**. This represents the calculated sound pressure level for a band, taken from measurements over a number of songs, at a similar style venue. For the purpose of assessing a worst case these measured noise levels were considered to be constant for the full 15 minute assessment period.

TABLE 5								
Lw OF AMPLIFIED MUSIC (Leq)								
	Octave Band Centre Frequency, Hz dB(A)							
dB(A)	31.5	63	125	250	500	1k	2k	4k
105	45	72	88	95	99	101	98	92

For logistical reasons it is not considered likely that there will be events involving the use of amplified music in both of the MPRs at the same time.

For determination of potential adverse noise impacts due to the worst case use of the MPRs, therefore, a noise source representing the music, as described above, was assumed to be in MPR 1 at the point indicated with a star on **Figure 4**.

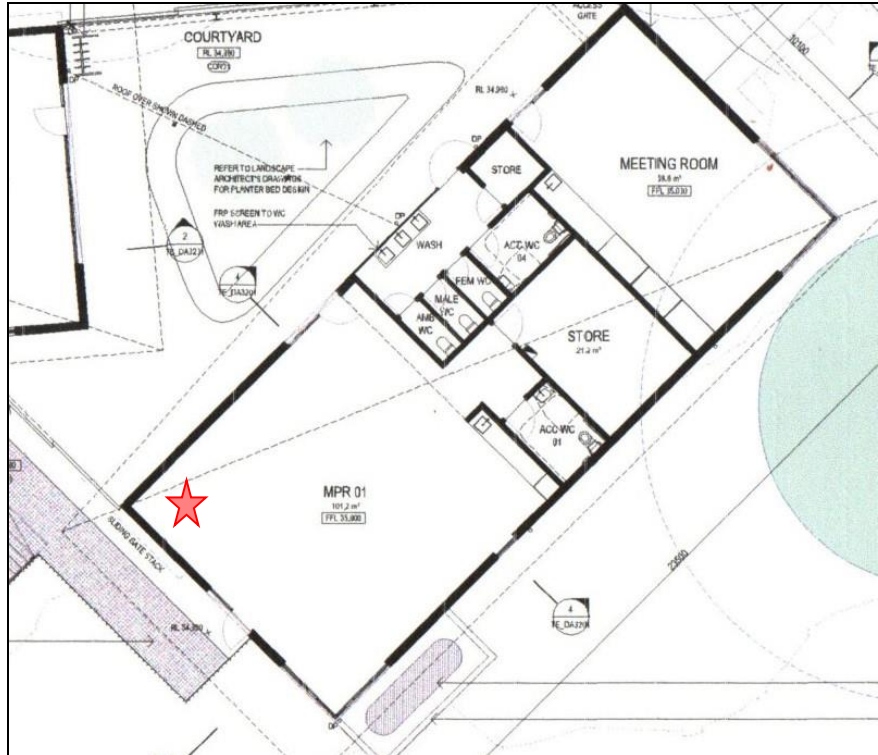


Figure 4 – MPR 1 Noise Source Location

Noise levels were then theoretically propagated to the most potentially affected residences taking into account the effects of transmission loss through building elements and hemispherical spreading (distance loss).

From consideration of the dimensions and orientation of the various building elements, the sound pressure levels immediately outside these were propagated to the nearest receiver using an equation¹ giving the sound field due to an incoherent plane radiator.

Note that a specific calculation of directivity loss for the roof, plus an area gain for the surface, was performed in lieu of the incoherent plane radiator calculation.

Table 6 shows a calculation of noise propagated through the south eastern and south western facades of the MPR1 and impacting on the most potentially affected residential receiver in that direction, approximately 23m to the south, at 1 Tyrell Street, shown as R2 on Figure 2.

The plans for the MPR1 show that the south eastern facade (facing R2) will be constructed of a combination of f/c cladding and glass.

¹ Equation (5.104), DA Bies and CH Hansen, *Engineering Noise Control*, E & FN Spon, 1996.

For the calculation of noise transmission loss, the STL of the clad section is based on data for a steel framed wall system with an exterior wall of f/c cladding, lined with 10mm taped and set plasterboard with mineral fibre infill. The STL of the glazed section is based on data for 6.38mm laminated glass and the roof is standard steel roof sheeting. The STL of the roof of the building is based on data for standard steel roof sheeting.

For the calculations the noise source was considered to be at the approximate location shown with a star on Figure 4, at an average distance of 5m from the internal surface of the glazing and the internal surface of the ceiling. All windows and doors were considered to be closed.

The predicted received noise has been compared to the adopted octave band noise guideline criteria for evening and night.

TABLE 6									
CALCULATED SPL AT R2									
ENTERTAINMENT IN MPR1 as dB(A) Leq									
Item	Octave Band Centre Frequency, Hz								
	dB(A)	31.5	63	125	250	500	1k	2k	4k
Source Lw	105	45	72	88	95	99	101	98	92
Reverberant Field Loss (5m)		15	15	15	15	15	15	15	15
SPL at inner surface	88	28	55	71	78	82	84	81	75
STL of glazing		20	22	25	28	33	30	35	35
External SPL (glazing)	59	10	35	48	52	51	56	48	42
SPL @ receiver Leq (glazing)	34	<0	10	23	27	26	31	23	17
STL of Walls		10	16	20	26	31	35	33	30
Reverberant Field Loss (5m)		15	15	15	15	15	15	15	15
External SPL (walls)	60	10	41	53	54	53	51	50	47
SPL @ receiver Leq (walls)	39	<0	20	32	33	32	30	29	26
STL of Roof		9	13	17	18	21	25	23	20
Directivity Loss @ 165°		10	14	16	19	21	22	23	25
Reverberant Field Loss (5m)		15	15	15	15	15	15	15	15
Area Gain		21	21	21	21	21	21	21	21
External SPL (roof)	75	32	51	61	64	63	60	58	53
SPL @ receiver Leq (roof)	36	<0	12	22	25	24	21	19	14
Total Received Noise	42	<0	21	33	35	34	33	30	27
Criteria Evening Leq	44	29	29	31	32	38	40	37	35
Impact	0	0	0	2	3	0	0	0	0
Criteria Night Leq	35	20	20	22	23	29	31	28	26
Impact	7	0	1	11	12	6	2	2	1

The results in Table 6 show that, under the assessed conditions, the total received noise will not exceed the evening time criterion. The noise will,

therefore, be in compliance with the requirements of the NPfl (as detailed in Table 3).

The results do show, however, that the noise may exceed the octave band guideline criteria (as per Table 4), in the 125 and 250 Hz range. The exceedance may be up to 3dB in the 250 Hz octave band. An exceedance of this magnitude would be regarded as “marginal” in terms of definitions in the NPfl.

The results in Table 6 also show that, under the assessed conditions, the total received noise will exceed the night time criterion developed as per the NPfl (Table 3). The noise will also exceed the guideline criteria in several octave bands, by up to 12 dB(A).

Similar calculations to those in Table 6 were undertaken assuming the entertainment noise was in MPR 2 as shown in **Figure 5**.

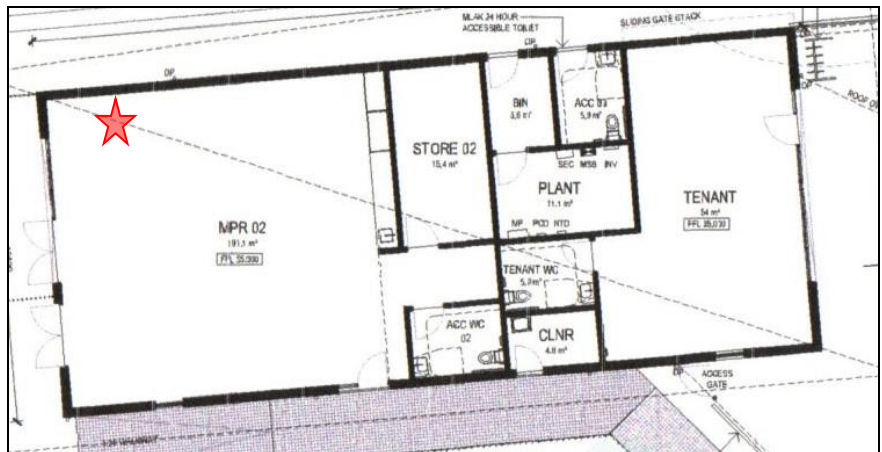


Figure 5 – MPR 1 Noise Source Location

The calculation of potential impacts was undertaken to the most potentially affected receiver at R3. The results of the calculation showed that the noise at R3 would achieve compliance with the evening time criteria, but would exceed the night time criteria.

It is recommended that any entertainment, with amplified music, in the MPR’s should stop at 10pm.

There should be a requirement for door and windows to be closed whilst there is any entertainment, with amplified music, in the MPR’s.

The calculations shown in Table 6 are based on the STL’s as detailed. Any variation to the construction types which may lower the STL of the various building elements must be approved by an acoustic consultant.

As indicated the rooms will be multi purpose. To consider a possible operating condition a scenario has been assessed where there is an exercise class, with accompanying music, in MPR 2 during the day or evening time.

The noise for an exercise class in a community facility has been taken from the Spectrum Acoustics technical database. It represents a class with music as an accompaniment to the activity (that is, not loud motivational music).

Table 7 shows a calculation of noise from the exercise class propagated through the western facade of MPR 2 and impacting on the most potentially affected residential receiver in that direction at R3.

The facade of MPR 2 in the direction of the receiver is to be made up of a combination of fibre cement cladding and glass. The STL through the solid sections of the facade will provide adequate attenuation of the exercise class noise.

The calculation in Table 7 takes into account reverberant field loss in the MPR and the propagation through the open doors to the receiver.

TABLE 7 CALCULATED SPL AT R3 EXERCISE CLASS IN MPR 2 as dB(A) Leq									
Item	Octave Band Centre Frequency, Hz								
	<i>dB(A)</i>	63	125	250	500	1k	2k	4k	8k
Source Lw	90	73	79	81	86	83	78	68	64
Reverberant Field Loss (8m)		17	17	17	17	17	17	17	17
SPL at opening	73	56	62	64	69	66	61	51	47
SPL at Receiver	41	24	30	32	37	34	29	19	15
Criteria Leq (Day/Evening)	44	29	31	32	38	40	37	35	32
Impact	0	0	0	0	0	0	0	0	0

The results in Table 7 show that, under the assessed conditions, there will be no adverse noise impacts at the most potentially affected receiver due to amplified music accompanying an exercise class in the MPR's.

Noise levels at all other receivers will be lower than those shown in the table and, therefore, in compliance with the adopted criteria.

4.3 Outdoor Areas

There are to be outdoor areas associated with each of the MPR's and a landscaped courtyard between the two buildings. It is envisaged that these areas will be in use occasionally during the day and evening times when there are events in the MPR's.

The major source of noise from the outdoor areas is considered to be that of people, talking loudly and simultaneously.

Based on the size of areas, and the number of people who may be in attendance, it is anticipated that there may be up to 35 to 40 people present in the outdoor areas, at any one time. It has been assumed that of these, approximately 30% or say, 10 to 12 people may, at any one time, be conversing loudly.

The Lw dB(A) of 10 to 12 people speaking loudly is shown in **Table 8**. For the assessment of a worst case it was assumed the speech would be raised for a full 15 minute period.

TABLE 8									
Lw OF RAISED SPEECH (Leq 15 min)									
	Octave Band Centre Frequency, Hz dB(A)								
	dB(A)	63	125	250	500	1k	2k	4k	8k
10 - 12 People	83	35	52	67	78	77	78	67	53

For the calculation of potential impacts a noise source representing the raised speech of the patrons was considered to be located in the courtyard area (indicated with a “1” on **Figure 6**), during the evening.

The noise was theoretically propagated to the nearest potentially affected receivers at R2 and R3, taking into account loss for distance only. The results of the calculations, assessed against the adopted octave band criteria for day/evening and night, are shown in **Table 9**.

Both receivers are a similar distance from the outdoor areas and, therefore, the results in the Table represent the theoretical noise at both receivers.

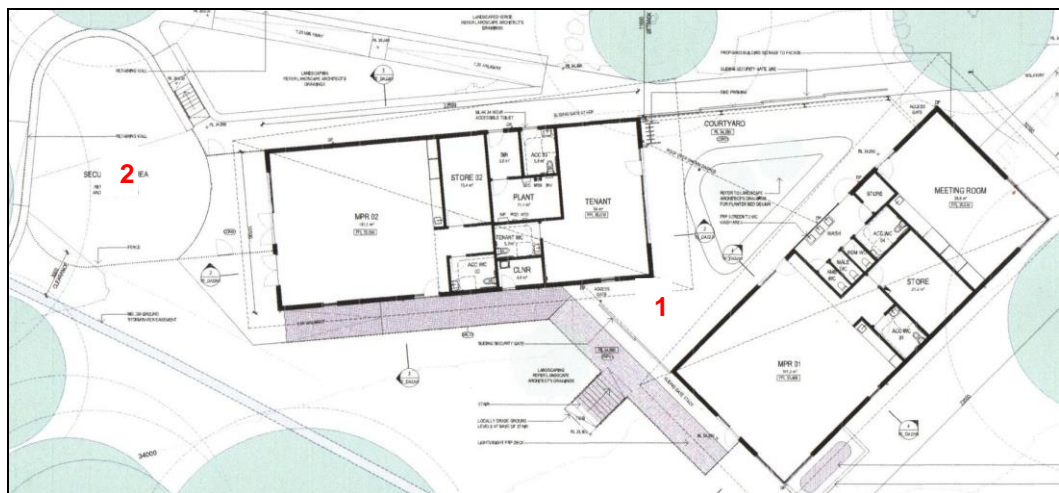


Figure 6 – Outdoor Areas Noise Source Locations

TABLE 9 CALCULATED SPL AT R2/R3 PATRONS IN OUTDOOR AREAS as dB(A) Leq									
Item	dB(A)	Octave Band Centre Frequency, Hz							
		63	125	250	500	1k	2k	4k	8k
Source Lw Leq (15 min)	83	35	52	67	78	77	78	67	53
Distance loss 1 (35m)		39	39	39	39	39	39	39	39
SPL at Receiver	44	<0	13	28	39	38	39	28	14
Criteria Leq (Day/Evening)	44	29	31	32	38	40	37	35	32
Impact	0	0	0	0	1	0	2	0	0
Criteria Leq (Night)	35	20	22	23	29	31	28	26	30
Impact	9	0	0	5	10	7	9	2	0

The results in Table 9 show that, under the assessed conditions, the received noise from patrons in outdoor areas will not exceed the day or evening time NPfl criterion (Table 3). The noise may exceed the guideline criteria in the 500Hz and 2 kHz octave bands by up to 2 dB. Such an exceedance would be regarded as “negligible” per they NPfl.

The results show that, under the assessed conditions, the total noise from patrons in the outdoor areas could exceed the overall night time criterion by up to 9dB(A) Leq (15 min).

For considering a worst case the noise from the patrons on the outdoor areas was assessed as being constant for a full 15 minute period. In reality, the nature of most conversation in such circumstances is not constant.

In addition to this, the use of the outdoor areas will be occasional and the nose source will, therefore, not be continuous. Any impacts will be sporadic and receivers will get significant respite. As such, the noise from the outdoor areas is not considered likely to adversely impact on the acoustic amenity of the area.

4.4 Secure Play Area

There is to be a secure play area at the western side of MPR 2. It is considered that the major source of noise from this area will be that of children playing. Similar calculations to those in Table 9 were undertaken, assuming a group of 12 children were in the play area.

The noise from the children playing is represented as single point source located indicated with a “2” on Figure 6.

The noise was theoretically propagated to the nearest potentially affected receiver at R2, taking into account loss for distance only. The results of the calculations, assessed against the adopted octave band criteria for day/evening, are shown in **Table 10**.

TABLE 10 CALCULATED SPL AT R2 CHILDREN IN PLAY AREA as dB(A) Leq									
Item	dB(A)	Octave Band Centre Frequency, Hz							
		63	125	250	500	1k	2k	4k	8k
Source Lw Leq (15 min)	83	35	52	67	78	77	78	67	53
Distance loss 1 (30m)		38	38	38	38	38	38	38	38
SPL at Receiver	45	<0	14	29	40	39	40	29	15
Criteria Leq (Day/Evening)	44	29	31	32	38	40	37	35	32
Impact	1	0	0	0	2	0	3	0	0

The results in Table 10 show that, under the assessed conditions, the received noise from children in the play areas may exceed the day or evening time NPfl criterion (Table 3) by 1 dB. The noise may exceed the guideline criteria in the 500Hz octave bands by up to 2 dB and in the 2kHz octave bands by up to 3 dB.

The exceedance of the overall noise criterion by would be regarded as “negligible” per they NPfl. As would the exceedance in the 500Hz octave band.

The exceedance of up to 3 dB in the 2kHz octave band would be considered “marginal”. The noise would be of children playing and may only occur occasionally. Noise in the mid to high frequencies (such as 2kHz) is a major contributor to the background environmental noise in typical suburban areas and the exceedance in this instance is not likely to be considered intrusive.

4.5 Mechanical Plant

The plans show a plant room on the northern side of the northernmost of the two buildings. Noise from the plant room will be adequately attenuated in the direction of any residential receivers by the structure of the building.

There is also to be air conditioning condensers located underneath the lightweight deck at the western end of MPR 1, as shown with a star on **Figure 7**.

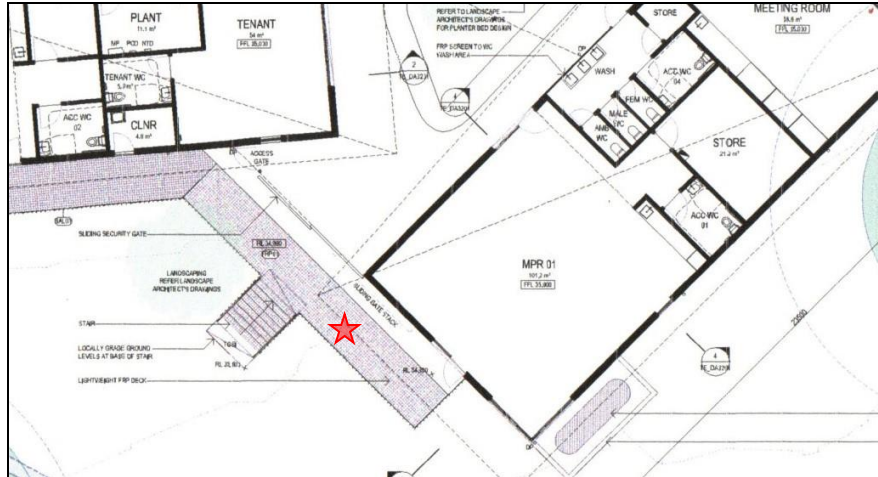


Figure 7 – A/C condenser Noise Source Location

Air conditioning condenser units for this type of application, typically, would have an L_w of up to 78 dB(A) when they are operating at full capacity.

The most potentially affected residential receiver boundary is at R2, which is 30m to the south. For a condenser unit with an L_w of 78 dB(A) working constantly, this equates to an SPL of 40 dB(A) Leq (15 min) at that boundary. This is in compliance with the evening time criterion.

To ensure compliance it is recommended that the final location and type of mechanical plant to be installed must be approved by an acoustic consultant.

4.5 Car Park

There will be a total of 21 car parking spaces at the northern side of the building (there is currently car parking in this area and the proposal will provide an increased number of spaces).

Noise in car parks typically comes from people walking to and from cars, doors opening and closing etc., as well as vehicles moving at slow speeds. Each noise event is characterised by a brief peak which when averaged out over a 15 minute period has a relatively low Leq . The impact of each noise event on any single receiver is also variable depending upon the location of individual cars within a car park and as they move in and out. In addition to this, people arriving or departing a Community Centre would normally be expected to do so in a relatively quiet and orderly fashion.

Some activities at the TCC will have a discrete starting and finishing time and the worst case for noise generation would be at the end of an activity where all car parks would be expected to be vacated in a single 15 minute period.

Typical noise levels from car parks have been sourced from the Spectrum Acoustics technical database. This contains noise measurements from a series of vehicles arriving and departing a car park with people moving to and from vehicles. The measurements were made over a representative period to ascertain a typical noise level from these activities. The measurements were made at varying distances from each car to approximate the situation in relation to an adjacent residence over a 15 minute interval. That is, at any time throughout each 15 minute interval various car parks, at different distances from the nearest residences, will be in use.

The measurements in the database show a noise level of 53 dB(A) Leq measured over a 5 minute period where up to 6 vehicles moved in and out of a car park. The measurements were made at an average distance of 7m.

Assuming the noise from the 6 vehicles is consistent for a full 15 minutes at a distance of 7m this equates to a sound power level of 73 dB(A) Leq (15 min) for car park noise. This value has been used to determine impacts over a 15 minute assessment period during the evening at the end of an event. For most of the remainder of the day there will be very little activity in the car park.

Due to the layout of the car park, individual parking spaces will be at various distances from receivers. To assess potential impacts the car park has been considered to be 4 separate “banks” of 6 parking spaces, each with an average sound power level of 73 dB(A) Leq (15 min).

Received noise levels were determined for each “bank” and the combined result calculated for the most potentially affected receiver, R1, at 2 Tyrell Street. The results of the assessment of car park noise are shown in **Table 10**. Car park numbers referred to in the table are as shown diagrammatically in **Appendix II**.

TABLE 10 CALCULATED SPL R1 TYRELL STREET CAR PARK NOISE as dB(A) Leq (15 min)		
Car Park Number	Distance Loss	Received Noise
1	42 (50m)	31
2	43 (57m)	30
3	44 (65m)	29
4	45 (72m)	28
SPL at Receiver		36
Criterion (Day/Evening)		44
Impact		0
Criterion (Night)		35
Impact		1

The results in Table 10 show that, under the assessed worst case scenario, the noise emissions from the use of the car park will not exceed the evening time criterion. The car park noise may exceed the most stringent night time criterion by up to 1 dB(A) Leq (15 min).

Notes in the NPfI state that such an exceedance of a noise criterion would be regarded as negligible.

Other receivers are either more distant from the car parks and/or at least partially shielded from the car parks by the intervening building structures of the TCC. Noise levels at other receivers will, therefore, be at lower levels than those shown in Table 10 and will be in compliance with all criteria.

As with the comments relating to noise from the outdoor areas, the noise from the car park will only be present occasionally. As per those previous comments then the car park noise is not considered likely to adversely impact on the acoustic amenity of the area.

4.6 Commercial Tenancy

As detailed previously, there is to be a commercial tenancy located adjacent to MPR 2as shown in **Figure 8**.

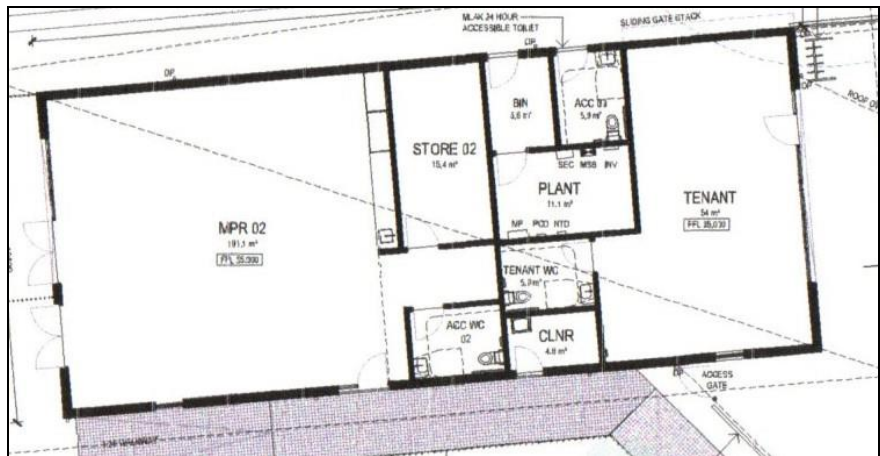


Figure 8 – Commercial Tenancy Location

The future occupant of the tenancy is not known at the time of the current assessment. The D.A. for the project includes the construction of the tenancy but does not cover the operation of any commercial premises.

It is envisaged that the tenancy will be operated by a community service provider. Noise levels from this sort of commercial activity are generally relatively low and are, typically, limited to occasional conversations in outdoor areas. Under such circumstances there is little potential for adverse noise impacts.

5.0 – DISCUSSION OF RESULTS AND CONCLUSION

An acoustical assessment of theoretical noise emissions has been carried out for proposed Tenambit Community Centre at Kenneth Street, Tenambit NSW.

The noise impacts at the most potentially affected residential boundaries have been assessed, due to the noise emissions from each of;

- Multi Purpose Rooms,
- Outdoor Areas,
- Mechanical Plant, and
- Car Park.

The assessment has shown that, under the assessed conditions, the typical use of the community centre will not create any adverse noise impacts at any receivers.

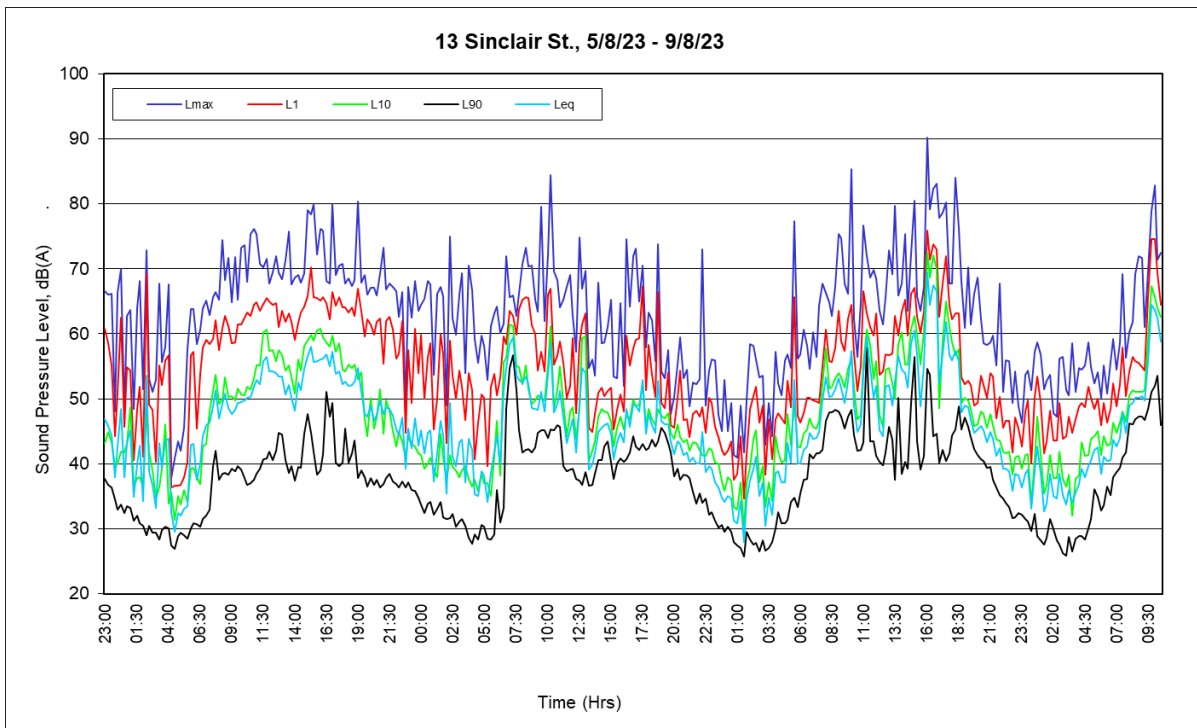
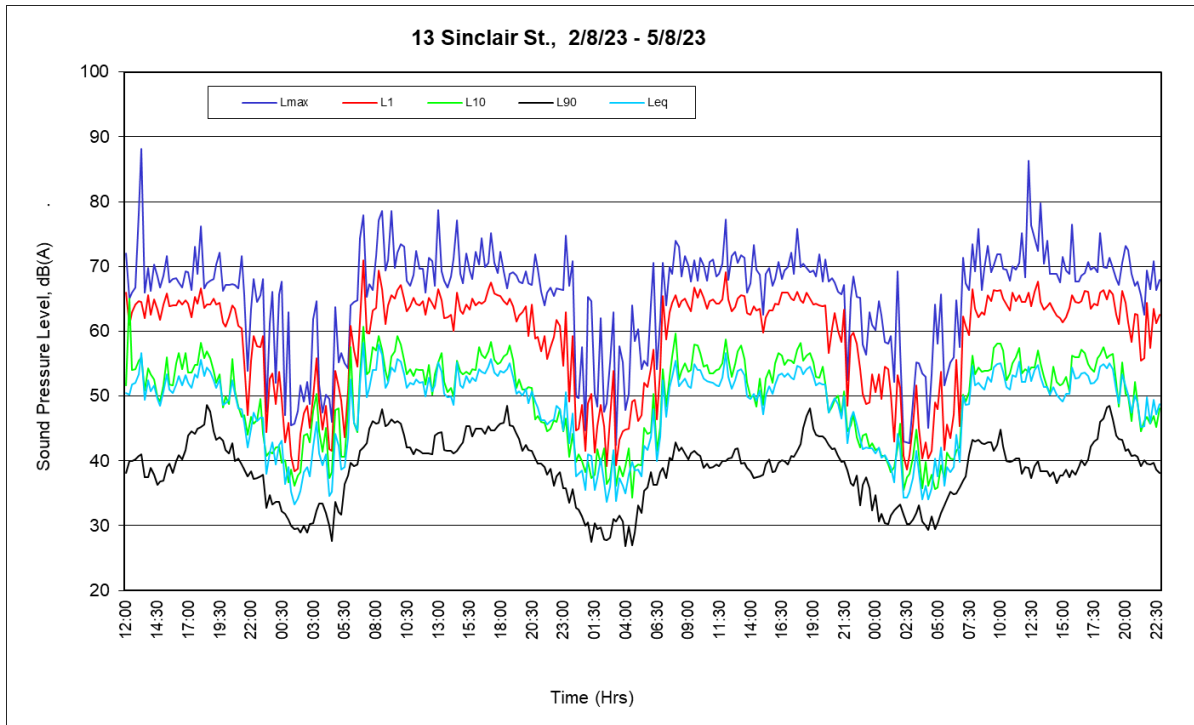
The assessment has shown that the use of amplified music in the MPR's does have the potential to create adverse noise impacts at some receivers.

It is recommended that the doors and windows to the MPR's should be closed when there is amplified music being played and that all amplified entertainment should cease at 10pm.

With these, or acoustically similar recommendations in place, the operation of the community centre is not considered likely to adversely impact on the acoustic amenity of the area.

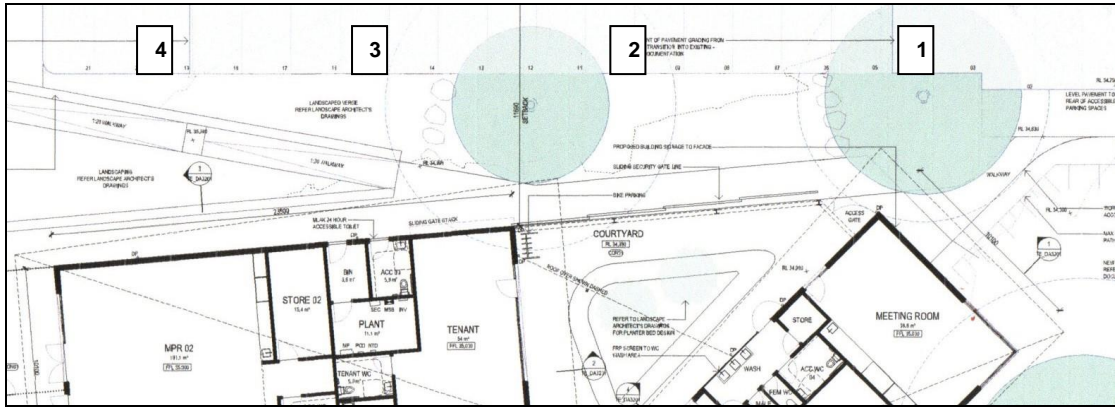
APPENDIX I

NOISE LOGGER CHARTS



APPENDIX II

CAR PARK NOTATIONS



Car Park Noise Source Locations