OCTAVE
ACOUSTICS

CO-OP Studio
10 March 2026

Caulfield Grammar School Shelford Campus Sports Facility

Acoustic Report

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Client	CO-OP Studio
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Disclaimer

Contents

1. Introduction

Octave Acoustics was engaged to provide an acoustic report for the Caulfield Grammar School Shelford Campus Sports Facility town planning submission. This assessment has been prepared to address:

- Noise impacts from mechanical plant under the Environment Protection Regulations 2021.
- Noise impacts from use of the new indoor court (sports activity, music, PA noise).

The anticipated hours of operation of the sports facility, which include "core school hours", "after-care" hours and Senior Sport use, are:

- 7:30am – 6:00pm Monday to Friday
- 8:00am – 2:30pm Saturdays

2. Site Assessment

2.1. Site Context

The site of the proposed sports facility building (Figure 1) and surrounds are zoned NRZ1 (Neighbourhood Residential Zone). The nearest sensitive receivers are:

- Single-storey residences at 17 & 19 Lumeah Road and a two-storey residence at 21 Lumeah Road, located to the east.
- The two-storey Deacon's residence located at 4 Hood Crescent to the south-west.
- The main Caulfield Grammar School Shelford Campus located to the west.

Figure 1 – Site Context and Noise Monitoring Location

2.2. Noise Monitoring

Octave Acoustics attended site on Thursday 26 February 2026 to inspect existing conditions and install an unattended noise monitor in the location shown in Figure 1. The logger ran for a duration of 4 days including one weekend, which is expected to be the most sensitive period.

Unattended noise monitoring was carried out using an NTi XL2 sound level meter which was calibrated before and after the assessment period using a Bruel & Kjaer 4230 calibrator. No drift in calibration was detected. The NTi XL2 meter complies with the requirements of IEC 61672-1.2013 Sound Level Meters and is classified as a Class 1 instruments. The calibrator complies with the requirements of IEC 60942.2004 Sound Calibrators. The XL2 and calibrator carry current NATA certification.

Weather data for the monitoring period was obtained from the nearby Bureau of Meteorology Automatic Weather Station Melbourne (Olympic Park) and was used to exclude periods of rain or excess wind. Extraneous noise from operation of plant was also identified and excluded.

The background level for each period during each day was determined as the average of the hourly L_{90} levels for that period in accordance with EPA Publication 1826.5 *Noise limit and assessment protocol for the control of noise from commercial, industrial and trade premises, and entertainment venues*. The adopted background levels were then conservatively set as the minimum background levels measured for each period over the monitoring duration (Table 1).

Table 1 - Noise Monitoring Results

Date	Day L_{A90} dB	Evening L_{A90} dB	Night L_{A90} dB
Thursday 26/02/2026	-	43	34
Friday 27/02/2026	41	39	34
Saturday 28/02/2026	40	40	36
Sunday 01/03/2026	-	41	38
Minimum	**40**	**39**	**34**

Notes:
1. Day period is 07:00 – 18:00 Monday – Saturday (except public holidays).
2. Evening period is 18:00 – 22:00 Monday – Saturday, and 07:00 – 22:00 Sunday and public holidays.
3. Night period is 22:00 – 07:00 Monday – Sunday.

3. Criteria

3.1. Mechanical Plant

Noise emissions from mechanical plant are required to comply with Part 5.3 of the Environment Protection Regulations 2021 (EPR 2021). The EPA Victoria *Noise Limit and Assessment Protocol for the Control of Noise from Commercial, Industrial and Trade Premises and Entertainment Venues Publication 1826.5* (Noise Protocol) provides a protocol for determining EPR 2021 noise limits and carrying out subsequent assessment of noise impacts.

EPR 2021 is a regulation under the Environment Protection Act 2017 (EP Act) and compliance is mandatory when noise levels are assessed at noise sensitive areas, which include residential properties. The applicable EPR 2021 noise limits for plant and services noise emissions have been calculated based on the measured background levels and are presented in Table 2 below.

Table 2 – EPR 2021 Noise Limits for Plant and Services Emissions

Period	Zoning Level, L_{Aeq} dB	Background Level, L_{A90} dB	Background Classification	Applicable Noise Limit[4], $L_{Aeq,30min}$ dB
Day[1]	50	40	Neutral	50
Evening[2]	44	39	Neutral	44
Night[3]	39	34	Neutral	39

Notes:

1. Day period is 07:00 – 18:00 Monday – Saturday (except public holidays).
2. Evening period is 18:00 – 22:00 Monday – Saturday, and 07:00 – 22:00 Sunday and public holidays.
3. Night period is 22:00 – 07:00 Monday – Sunday.
4. Where the noise source under consideration is equipment used solely in relation to emergencies (such as fire pumps, standby generators, stair pressurisation and smoke spill fans), the relevant noise limit applying to testing or maintenance of such equipment is increased by 10dB for the day period and 5dB for the evening and night periods.

3.2. Public Address Systems

EPA Publication 1254.2 *Noise control guidelines* recommends that noise intrusion from use of public address systems should not exceed 5 dB(A) above background at any affected residences or other noise-sensitive locations.

3.3. Sports Activity

There are no objective noise limits or guidelines applying to noise emissions from sporting activities within indoor sports courts. In lieu of objective limits, other noise policies and guidelines in Victoria may be referenced to establish noise trigger levels, which, if exceeded, indicate a noise may be unreasonable or a nuisance and that further consideration of mitigation is required. These include the following:

- EPA Publication 1254.2 *Noise control guidelines*, which recommends that noise from public address systems is limited to 5 dB(A) above background ambient (L_{A90}) noise levels.
- EPR 2021 and the Noise Protocol, which set music noise limits for indoor venues during the day and evening periods as background (L_{A90}) plus 5 dB(A).

The background plus 5 dB(A) criteria has been adopted as trigger levels for sporting activity noise from the indoor court, and are presented in Table 3 below.

Table 3 – Indoor Sporting Activity Noise Trigger Level

Period	Background Level, dB L_{A90}	Sporting Activity Noise Trigger Level, dB L_{Aeq}
Day	40	45

3.4. General Environmental Duty

Under Part 3.2 of the EP Act, a person who is engaging in an activity that may give rise to risks of harm to human health or the environment from pollution or waste [including noise] must minimise those risks, so far as reasonably practicable.

With respect to noise, to determine what is (or was at a particular time) reasonably practicable in relation to the minimisation of risks of harm to human health and the environment, regard must be given to:

- The likelihood of those risks eventuating,
- The degree of harm that would result if those risks eventuated,
- What the concerned person knows, or ought reasonably to know, about the harm or risks of harm and any ways of eliminating or reducing those risks,
- The availability and suitability of ways to eliminate or reduce those risks,
- The cost of eliminating or reducing those risks.

It should be noted that the General Environmental Duty requirement applies irrespective of whether compliance with EPR 2021 noise limits is achieved.

3.5. Green Star

The project aims to achieve a Green Star equivalent build. For schools and sports facilities, Green Star requires three criteria to be met to achieve full points under the acoustic comfort credit. The three criteria which will be targeted are:

- Maximum internal noise levels.
- Acoustic separation.
- Reverberation control.

The acoustic performance of the building will be designed in accordance with relevant legislation, standards and guidelines, including:

- AS 2107:2016 *Acoustics – Recommended design sound levels and reverberation times for building interiors*.
- Victorian School Building Authority *Building Quality Standards Handbook* 2025.
- Association of Australasian Acoustical Consultants *Guideline for Educational Facilities* Version 2.0.
- Environment Protection Regulations 2021 and EPA Publication 1826.5.
- EPA Publication 1254.2 *Noise control guidelines*.

4. Assessment

A 3-D computer noise model of the Subject Development and surrounding area was modelled 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:

- Geometrical spreading.
- Atmospheric conditions.
- Air-absorption.
- Ground absorption (G = 0.5).
- Reflections.
- Barrier effects associated with the built form of surrounding structures.
- Transmission loss of facade elements.

4.1. Mechanical Plant

Noise emissions from mechanical plant are required to comply with the EPR 2021 noise limits set out in Table 2. Assessment of mechanical plant was undertaken based on the preliminary supply air fan selection and mechanical concept layout attached in Appendix B. Preliminary selections for other equipment were not available at this stage, therefore the sound power levels of other equipment were set according to the typical sound power levels provided in the AAAC *Guideline for Child Care Centre Acoustic Assessment*, Version 3.0.

Table 4 – Preliminary Mechanical Plant

Item	Quantity	Sound Power Level, dB(A)
Indoor court supply air fan (Fantech AP0808CP6/24)	4	75
Small exhaust fan	3	60
Small condenser	1	65
Medium condenser	2	70

The preliminary mechanical plant was included in the noise model with the sound power levels set out in Table 4. Results are shown in Table 5 below and are compared against EPR day period limits, as the proposed hours of operation are limited to the day period.

Table 5 - Mechanical Plant Sound Levels at Sensitive Receivers Without Treatment

Receiver	Calculated Sound Level, L_{Aeq} dB	EPR Day Noise Limit, L_{Aeq} dB	Complies?
17 Lumeah Road	50	50	Yes
19 Lumeah Road	39	50	Yes
21 Lumeah Road	40	50	Yes
Deacon's Residence	38	50	Yes
CGS Shelford Campus	32	50	Yes

Results indicate that no treatment is required to comply with EPR day period noise limits. Nonetheless, to minimise noise impacts to sensitive receivers per the requirements of General Environmental Duty, it is recommended that the condenser units located adjacent the residential boundary are acoustically screened. This may include using the existing boundary fencing and sealing any holes or gaps as required, or installing

separate screening around the condenser units. It is recommended that a detailed assessment of noise emissions from mechanical plant including requirements for the acoustic screening is conducted at design stage.

4.2. Internal Activity

Noise monitoring was previously conducted within an acoustically reverberant basketball stadium with two indoor basketball courts. The noise measurements were conducted on an evening when the grand finals were being held for the older teenagers. This level is expected to be representative of a "peak activity" time.

Noise measurements have also been conducted within a double indoor sports court while schoolchildren are playing sports, with 12 children and one coach in each court. This level is expected to be representative of typical use of the indoor court.

The measured internal noise levels for the "peak activity" case and "typical use" cases are shown below in Table 6.

Table 6 – Measured Internal Noise Levels, L_{eq} dB(A)

Description	Overall, dB(A)	Octave Band Centre Frequency, Hz							
		63	125	250	500	1k	2k	4k	8k
Internal noise level during peak activity	84	76	72	71	73	80	78	77	59
Internal noise level during typical use	74	58	61	58	63	71	67	63	51

The acoustic performance of the facade elements were modelled as follows:

- Walls:
  - Below 3.2m: R_w 50 blockwork or concrete panel exterior with 12mm plywood internally on 35mm furring channels.
  - Above 3.2m: R_w 29 insulated wall panel system, e.g. 100mm ASKIN Volcore Vivid.
- Glazing: R_w 34 glazing (e.g. 10.38mm laminated fixed glazing)
- Roof: R_w 18 metal deck roof (e.g. 0.4mm BMT Colorbond).
- Ventilation: 8x 1500x600mm louvres at walls of the sports court (assumed open).

Standard transmission loss algorithms were used to calculate noise breakout from the sports court. Internal activity noise impacts were modelled for the "typical use" and the "peak activity" cases, and results are presented in Table 7 and Table 8.

Table 7 – Typical Sports Activity Noise Impacts

Receiver	Calculated Typical Use Sound Level, L_{Aeq} dB	Noise Trigger Level, L_{Aeq} dB	Further Consideration Required?
17 Lumeah Road	30	45	No
19 Lumeah Road	29	45	No
21 Lumeah Road	35	45	No
Deacon's Residence	41	45	No
CGS Shelford Campus	33	45	No

Table 8 – Peak Sports Activity Noise Impacts

Receiver	Calculated Peak Activity Sound Level, L_{Aeq} dB	Noise Trigger Level, L_{Aeq} dB	Further Consideration Required?
17 Lumeah Road	40	45	No
19 Lumeah Road	39	45	No
21 Lumeah Road	45	45	No
Deacon's Residence	51	45	Yes
CGS Shelford Campus	43	45	No

Results of the assessment show that noise impacts associated with typical use of the sports court are expected to comfortably comply with the noise trigger levels. However, further consideration is required of the noise impacts to the Deacon's residence during periods of peak use. The primary path of noise transmission is through the open louvres. The following options are calculated to reduce peak activity noise impacts to below the trigger level:

- Close the louvres with line of sight to the Deacon's residence during periods of high activity (as shown in Appendix B); or
- Install acoustic louvres equivalent to Fantech ASB.

With one of these options adopted, it is considered that noise from the indoor sports court has been minimised as required by General Environmental Duty, and is unlikely to impact amenity at the adjacent sensitive receivers.

4.3. Public Address System

Based on the performance of the facade elements described in Section 4.2, the maximum allowable internal (reverberant) noise level of the PA system is calculated to be L_{eq} 78 dB(A) to comply with the recommendations of EPA Publication 1254.2. It is expected that this level will be more than adequate, as it is a level corresponding to a "loud" speaking voice. It is recommended that an acoustic assessment of the PA system is undertaken at design stage to set appropriate noise limits for each of the speakers to achieve compliance with the recommendations of EPA Publication 1254.2.

5. Conclusion

Octave Acoustics was engaged to provide an acoustic report for the Caulfield Grammar School Shelford Campus Sports Facility town planning submission, to address potential noise impacts from mechanical plant and use of the new indoor court.

Octave Acoustics installed an unattended noise monitor on site to monitor ambient background levels for four days including one weekend. Noise criteria for the development were set in accordance with EPR 2021, the EPA Noise Protocol, and EPA Noise Control Guidelines, using the results of the noise monitoring. A 3D noise model of the proposed development and surrounds was construction in CadnaA noise modelling software to calculate noise impacts to adjacent sensitive receivers.

Assessment of noise emissions from mechanical plant indicated that plant noise emissions would comply with EPR 2021 noise limits. Nonetheless, to minimise noise impacts it is recommended that condenser units adjacent the residential boundary are appropriately screened, which may be accomplished by using the existing boundary fencing and sealing any gaps or holes as required.

Assessment of noise breakout from internal activity indicated that noise emissions from typical use of the indoor court (such as sports class) would comfortably comply with the established criteria. Noise emissions during periods of peak activity (such as a competitive match) were found to exceed the trigger levels at one receiver. It is recommended that mitigation or management strategies relating to the ventilation louvres are adopted to reduce noise levels to below the trigger levels. With this recommendation incorporated, noise from the indoor sports court has been minimised as required by General Environmental Duty, and is unlikely to impact amenity at the adjacent sensitive receivers.

The maximum allowable internal PA system noise levels which comply with EPA guidelines were calculated, and it is expected that typical operation of the PA system will not exceed EPA criteria. It is recommended that an assessment is undertaken at design stage to set noise limits for the PA system speakers to comply with EPA guidelines.

Appendix A: Glossary of 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' (LAeq,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' (LA90,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

dBC – See 'C' frequency weighting

EQUIVALENT CONTINUOUS SOUND LEVEL, LAeq

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 - LAeq) 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 LAeq 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 LAeq 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 devise. 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 (LAeq,T) by the formula $LAeq,T = LAE - 10 \log_{10} T$. 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, Lp

The level of sound measured on a sound level meter and expressed in decibels (dB). Where $LP = 10 \log_{10}(Pa/Po)^2$ dB (or $20 \log_{10}$ (Pa/ Po) dB) where Pa is the rms sound pressure in Pascal and Po is a reference sound pressure conventionally chosen is 20 µPa (20×10^{-6} Pa) for airborne sound. Lp 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, Lw

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. Lw = Lp + 10 $\log_{10}$ 'a' dB,

re: 1pW, (10^{-12} watts) where 'a' is the measurement noise-emission area (m2) 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, Ln

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 LAF1,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 LAF10,T. In most countries the LAF10,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 LAF90,T. In most countries the LAF90,T is measured over periods of 15 minutes, and is used to describe the average minimum or background noise level.

WEIGHTED SOUND REDUCTION INDEX, Rw

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 Rw+C ratings are frequency weighted to simulate insulation from human voice noise. The Rw+C is similar in value to the STC rating value. External walls, doors and windows may be Rw+Ctr rated to simulate insulation from road traffic noise. The spectrum adaptation term Ctr 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: Mechanical Concept & Markup

BUILDING SERVICES SPATIAL PLANNING LEGEND

MECHANICAL

ELECTRICAL

FIRE

HYDRAULIC

HOOD CRES

FUTURE EXTENDED SOCCER PITCH (NOT PART OF SCOPE)

PEER TYPE DISTRAITFICATION FANS, TYP. 8 OFF

ROOF MOUNTED SUPPLY AIR FAN CONNECTED TO BELLMOUTH OUTLET C/W VERMINPROOF MESH, TYP. 4 OFF

1500x600mm FACE SIZE WEATHERPROOF LOUVRE 2.0m A/C C/W MOTORISED DAMPER, TYP. 8 OFF

FORECOURT

OUTDOOR PLAY

INDOOR COURT

CIRCULATION

MAINTENANCE AREA

MAINTENANCE SHED

NATURALE VENT. VIA ROLLER SHUTTER

TO ROOF FAN

WC

CLNRS

ACC. CH

CHANGE 01

CHANGE 02

STORE

FOYER

OFFICE

REF

TO ROOF COWL

HEAT RECOVERY VENTILATOR

DUCTED A/C UNIT

MULTI-PURPOSE

MAINTENANCE STORE

EXTENT TO BE CONFIRMED BY CLIENT

LEASE BOUNDARY

OUTLINE OF HERITAGE OVERLAY

EXISTING ST MARY'S TENNIS CLUBHOUSE

EXISTING DEACON'S RESIDENCE

OUTDOOR PLAY

TENNIS COURTS

Close louvres during periods of peak activity, or install acoustic louvres equivalent to Fantech ASB.

Condenser units adjacent boundary to be acoustically screened.

PRINT DRAWINGS IN COLOR

ISSUE DATE AMENDMENT DRAFTED BY

CLIENT
CAULFIELD GRAMMAR SCHOOL

ARCHITECT
CO.OP

BUILDING SERVICES ENGINEER
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PROJECT
CAULFIELD GRAMMAR SCHOOL SHELFORD SPORTS

DRAWING TITLE
BUILDING SERVICES PROPOSED GROUND FLOOR

NORTH POINT

REVISION
A

DRAWN I-
DESIGNED I-
CHECKED I-

SCALE @ A0
NTS

PROJECT No.
MEL25155

DRAWING No.