

77 PARK STREET, SOUTH MELBOURNE

25% Design Development - Acoustic Specification

For

GURNER

DOC. REF: V055-02-B ACOUSTIC REPORT (R1)
13 APRIL 2022

Enfield Acoustics Pty Ltd
ABN 15 628 634 391
Ph: +61 3 9111 0090
PO Box 920
North Melbourne, VIC 3051

PORT PHILLIP PLANNING DEPARTMENT
Date Received: 13/05/2022

Project	77 Park Street, South Melbourne
Subject	25% Design Development - Acoustic Specification
Client	Gurner
Document Reference	V055-02-B Acoustic Specification (r1) - Amendment.docx
Date of Issue	13 April 2022

Disclaimer:

The information contained in this document shall remain the property of Enfield Acoustics Pty Ltd and the Client. The information contained within this document shall not be distributed to third parties without the written consent of Enfield Acoustics Pty Ltd and the Client.

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. Advice provided in this document is done so with respect to instructions, on the basis of information supplied to Enfield Acoustics Pty Ltd at the time of writing, and in accordance with any reasonable assumptions, estimations, modelling and engineering calculations that we have been required to undertake. Enfield Acoustics Pty Ltd do not represent, warrant or guarantee that the use of guidance in the report will lead to any certified outcome or result, including any data relied on by third parties.

Table of Contents

1	General Requirements	4
1.1	Scope	4
1.2	Responsibilities	4
1.3	Design Co-ordination	4
1.4	Compliance.....	5
1.5	Certification	5
2	Materials	5
2.1	Selection of Materials	5
2.2	Installation	6
2.3	Shop Drawings.....	6
3	Performance Requirements	6
3.1	Sound Insulation	6
3.1.1	Facades	6
3.1.2	Partition Walls and Floors	7
3.1.3	Apartment Entry Doors	8
3.1.4	Services	8
4	Materials Specification.....	9
4.1	Facades.....	9
4.1.1	Window Mullions and Transoms.....	10
4.2	Partition Walls.....	10
4.2.1	Bathroom & Laundry Intra-tenancy Walls	11
4.3	Partition Floors and Ceilings	11
4.4	Apartment Entry Doors	12
4.5	Installation	12
4.5.1	Plasterboard	12
4.5.2	Insulation	12
4.5.3	Door Seal Installation	12
4.5.4	Workmanship	13
4.5.5	Acoustic Sealants.....	13
5	Services Specification	14
5.1	General	14
5.2	Works by Other Trades	14

5.3	Balancing.....	15
5.4	Internal Acoustic Duct Lining	15
5.5	Maximum Duct & Register Air Velocities	16
5.6	Hydraulic Services.....	16
5.7	Vibration Isolation & Control.....	17
Appendix A:	Glazing Markup (Materials Specification)	18
Appendix B:	Wall Partition Markup and Preliminary Mullion Details	27

1 General Requirements

1.1 Scope

This specification provides acoustic design and construction requirements to be considered in the builder's tender and complied with on completion of construction for the project: **77 Park Street, South Melbourne** (Project).

The scope of this document is based on:

- Design Development documentation up to 25% completion
- Drawings prepared by Fender Katsalidis Architects (Principal Consultant)
- Functional brief requirements confirmed by Gurner™ (Client) at the time of writing

This specification is subject to change as documentation progresses.

This document has been updated on review of revised town planning drawings prepared by FKA and dated 5 April 2022 for Council endorsement relating to Conditions 1(k) and 12 on the planning permit. The recommendations remain the same as the previous version of this document. Refer to Section 4.1 and Appendix A for construction requirements to satisfy the permit conditions.

1.2 Responsibilities

The builder and sub-contractors shall be required to comply with this specification, except where consent or dispensation is approved by the Client. Where alternative constructions or supply materials are implemented by the builder and sub-contractors, it shall be the Contractors responsibility to ensure compliance with the Performance Specification is provided on completion of the project, except where consent or dispensation is approved by the Client and the Principal Consultant confirms it does not conflict with other project matters.

1.3 Design Co-ordination

All specifications presented in this document shall be cross-referenced with all architectural, structural and services drawings, as deemed necessary.

If it is believed that a conflict exists between documents, or between statutory requirements and the documents, the Contractor shall notify the Principal Consultant, Client or Enfield Acoustics immediately.

Before commencing work:

- Obtain necessary information and resolve conflicts.
- Coordinate the design and installation in conjunction with all trades.

1.4 Compliance

The Project outcomes shall comply with:

1. The Performance Requirements and/or Construction Specification as set out in this document
2. Statutory and permit noise requirements
3. Other Standards where referenced in this document

Unless dispensation is approved, the Contractor shall at all times comply with either:

- a. The Performance Requirements of this specification, in particular where alternative constructions are proposed; or
- b. The Construction Requirements of this specification, in particular where the Contractor does not otherwise prove compliance with the Performance Requirements.

At handover, the Project shall satisfy the applicable performance based and/or construction based acoustic specification set out in this document.

During construction, the Client and Principal Consultant (and Enfield Acoustics where directed) shall have access to information as necessary to make judgments as to whether services and works are proceeding in a manner that will likely result in attainment of the above, or that dispensation from the requirements is appropriate.

1.5 Certification

During construction and at handover, Enfield Acoustics shall, on instructions from the Client or Principal Consultant, retain the right to check certification, by way of reviews of product data sheets, site inspections or testing, of:

1. Materials installed
2. Compliance with performance specifications
3. Compliance with contract documentation
4. Workmanship

2 Materials

2.1 Selection of Materials

Identification of a proprietary item does not necessarily imply exclusive preference for the identified item but indicates the necessary properties of the item. The Contractor shall not substitute selection without approval.

If alternatives to the documented products, methods or systems are proposed, submit sufficient information to permit evaluation of the proposed alternatives, including the following:

- Evidence that the performance is equal to or greater than that specified.
- Evidence of conformity to a cited standard.
- Reasons for the proposed substitutions.
- Cost implications.

Specific reference to materials in this document may override general material or product selection in other specifications or on drawings. In such cases of conflict, the Contractor shall confirm acceptability prior to procurement and installation in accordance with Section 1.3.

2.2 Installation

Unless specific instructions are provided in this document, prepare and install the manufactured items in conformance with the recommendations of the manufacturer or supplier. Where specific installation instructions are provided by the manufacturer or supplier to meet a certified acoustic outcome, this shall be noted by the Contractor.

Advise of activities that supplement or are contrary to the recommendations of the manufacturers or supplier.

2.3 Shop Drawings

Dimensioned drawings showing details of the fabrication and installation of substitute systems may be requested for review and approval.

For systems which differ from the design drawings and documentation, shop drawings or proprietary certification may be requested by Enfield Acoustics before signoff.

3 Performance Requirements

3.1 Sound Insulation

3.1.1 Facades

Facades shall be supplied and installed to comply with Condition 12 of City of Port Phillip planning permit 239/2017, being:

1. Not greater than 35dB(A) for bedrooms, assessed as LAeq, 8hr between 10pm and 6am; and
2. Not greater than 40dB(A) for living areas, assessed as LAeq, 16hr between 6am and 10pm.

3.1.1.1 De-rating of Partition Walls / Floors via Curtain Wall

All curtain, window walls or facades with exposed mullions and transoms shall not de-rate the partition wall and floor or shall be constructed in a way that the requirements of Section 3.1.2 are met.

3.1.2 Partition Walls and Floors

All partition walls and floors which abut a sole occupancy residential unit shall be constructed in accordance with the Performance Requirements of the National Construction Code (NCC), as follows:

- **FP5.1** Floors separating –
 - a) Sole occupancy units; or
 - b) a sole occupancy unit from a plant room, lift shaft, stairway, public corridor, public lobby, or the like, or a part of a different classification,

must provide insulation against the transmission of airborne and impact generated sound sufficient to prevent illness or loss of amenity to the occupants.

- **FP5.2** Walls separating sole occupancy units or a sole occupancy unit from a plant room, lift shaft, stairway, public corridor, public lobby, or the like, or parts of a different classification, must provide insulation against the transmission of –
 - a) airborne sound; and
 - b) impact generated sound, if the wall is separating a bathroom, sanitary compartment, laundry or kitchen in one sole-occupancy unit from a habitable room (other than a kitchen) in an adjoining unit,

sufficient to prevent illness or loss of amenity to the occupants.

- **FP5.3** The required sound insulation of a floor or wall must not be compromised by –
 - a) The incorporation or penetration of a pipe or other service element; or
 - b) a door assembly
- Where a Deemed to Satisfy Solution is proposed, NCC Performance Requirements shall be satisfied by complying with the deemed to satisfy provisions in section 3.1.2.1 below.
- Where a Performance Solution is proposed, the relevant Performance Requirements must be determined in accordance with A0.7 of the NCC.

3.1.2.1 Deemed to Satisfy Provisions

- a) A form of construction required to have an impact sound insulation rating must –
 - i. Have the required value for weighted sound reduction index (R_w) or weighted sound reduction index with spectrum adaptation term (R_w+C_{tr}) determined in accordance with AS/NZS 1276.1 or ISO 717.1 using results from laboratory measurements; **or**
 - ii. comply with Specification F5.2
- b) A floor in a building required to have an impact sound insulation rating must –

- i. have the required value for weighted normalised impact sound pressure level ($L_{n,w}$) determined in accordance with AS ISO 717.2 using results from laboratory measurements; **or**
 - ii. comply with Specification F5.2.
- c) A wall in a building required to have an impact sound insulation must be of discontinuous construction. Discontinuous construction means a wall having a minimum 20mm cavity between 2 separate leaves, and
- i. for masonry, where wall ties are required to connect leaves, the ties are of the resilient type; and
 - ii. for other than masonry, there is no mechanical linkage between leaves except at the periphery.

3.1.2.1.1 SOUND INSULATION RATING OF FLOORS

Required Sound Insulation Rating	
Airborne	Impact
$R_w + C_{tr} \geq 50$	$L_{n,w} \leq 62$

3.1.2.1.2 SOUND INSULATION RATING OF WALLS

Rooms Separated		Required Sound Insulation Rating	
SOU	Adjacent Occupancy	Airborne	Impact
Habitable room	SOU Bathroom, Laundry	$R_w + C_{tr} \geq 50$	Discontinuous
Habitable room	SOU Kitchen	$R_w + C_{tr} \geq 50$	Discontinuous
Habitable room	SOU Habitable	$R_w + C_{tr} \geq 50$	None
Any SOU area	Lift shaft	$R_w \geq 50$	Discontinuous
Any SOU area	Corridor, Stair, Lobby	$R_w \geq 50$	None

3.1.3 Apartment Entry Doors

All apartment entry doors shall be constructed in accordance with the Performance Requirements of the National Construction Code (NCC), as follows:

Door	Required Airborne Sound Insulation Rating
SOU Entry	$R_w \geq 30$

3.1.4 Services

If a duct, soil, waste or water supply pipe, including a duct or pipe that is located in a wall or ceiling cavity, serves or passes through more than one sole occupancy unit, the duct or pipe must be separated from the rooms of any sole occupancy unit by construction with an $R_w + C_{tr}$ (airborne) not less than:

Room Adjacent to Service	Required Airborne Sound Insulation Rating
Habitable room (excluding kitchen)	$R_w + C_{tr} \geq 40$
Non-habitable room or kitchen	$R_w + C_{tr} \geq 25$

3.1.4.1 Sound Isolation of Pumps

A flexible coupling must be used at the point of connection between the service pipes in a building and any circulating or other pump.

4 Materials Specification

4.1 Facades

Unless otherwise shown to comply with the Performance Requirements of Section 3.1.1, facades shall be constructed in accordance with the following glazing schedule and markup attached as Appendix A.

Sound Reduction Rating Required	Construction
R _w 41	<p>Double glazed unit with minimum 29mm pocket of:</p> <p>10.5mm Vlam hush glass / 12mm air space / 6.38mm laminated glass</p> <p>All operable windows to be awning type with full perimeter EPDM seals.</p> <p>All sliding doors to have full perimeter double wool pile seals (reduced airgap acceptable to meet pocket restriction, where approved by ESD consultant).</p>
R _w 37	<p>Double glazed unit with minimum 29mm pocket of:</p> <p>8.38mm laminated glass / 14mm air space / 6mm float glass</p> <p>All operable windows to be awning type with full perimeter EPDM seals.</p> <p>All sliding doors to have full perimeter double wool pile seals.</p>
R _w 33	<p>Double glazed unit with minimum 24mm pocket of:</p> <p>6mm float glass / 12mm air space / 6mm float glass</p> <p>All operable windows to be awning type with full perimeter EPDM seals.</p> <p>All sliding doors to have full perimeter double wool pile seals.</p>

R _w 32	Single glazing with 6.38mm laminated glass. Fixed glass.
-------------------	-----------------------------------------------------------------

4.1.1 Window Mullions and Transoms

NOTE: At the time of writing, curtain wall designs are still being developed. Construction details shall be provided at a later date where a proprietary certified system meeting the requirements of Section 3.1.2 isn't otherwise installed by the Contractor. Refer to Appendix B for preliminary details for costing.

4.2 Partition Walls

Unless otherwise shown to comply with the Performance Requirements of Section 3.1.2, partition walls shall be constructed in accordance with the following wall schedule and markup attached as Appendix B:

Tag	Construction
PT1	Rondo 92mm Quiet Stud with: One layer of 16mm fire-rated plasterboard both sides 90mm 14kg/m ³ insulation in stud cavity Wall constructed full height to the soffit
PT2	Double 64mm steel studs separated by minimum 44mm. One layer of 16mm fire-rated plasterboard both sides 75mm 14kg/m ³ insulation in both stud cavities Wall constructed full height to the soffit
PT2a / PT2b	Where PT2 interfaces with a concrete column, one side shall retain a minimum 20mm clearance between the concrete and framing Wall ties are prohibited in this application

	Both stud and furring channel around columns shall have insulation installed in all cavities
PT3	<p>25mm shaftliner core wall in C-H stud or similar</p> <p>Structural timber wall with minimum 90mm studs. 20mm airgap to be retained on one side of the wall</p> <p>Resilient wall ties accepted where installed only at floor level and equivalent to Mason WIC or Matrix SB-03</p> <p>One layer of 13mm fire-rated plasterboard to both sides of wall</p> <p>90mm 14kg/m³ insulation in both stud cavities</p>
Services Walls and Shafts	TBC

All other partitions shall be constructed in accordance with the Architectural Specification.

4.2.1 Bathroom & Laundry Intra-tenancy Walls

- The plasterboard sheeting of one side of all bathrooms shall extend full height to within 10mm of the soffit and the gap caulked.
- All penetrations through bathroom wall sheeting shall be acoustically sealed as described in Section 4.5.5 of this specification.

4.3 Partition Floors and Ceilings

NOTE: At the time of writing, this is subject to structural drawing review.

All concrete slabs shall be no less than 200mm, including set downs.

All tiled and timber finish floors shall have minimum 2mm thick acoustic underlay, equivalent to Damtec Standard, installed below the finished floor in accordance with the supplier's installation recommendations.

All suspended ceilings shall be minimum 10mm thick plasterboard. Any exposed soffits shall first require review and approval by Enfield Acoustics.

4.4 Apartment Entry Doors

- Threshold acoustic seals shall be equivalent to Raven RP126Si or RP127Si.
- Threshold seals may be surface mounted or morticed into door.
- A suitable threshold plate shall be installed where required to operate automatic drop seals effectively.
- Perimeter acoustic seals shall be equivalent to combined Raven RP10 and Raven RP134, installed at side and header door stops

4.5 Installation

4.5.1 Plasterboard

- Where fire or sound rated plasterboard is specified, this shall not be substituted with any other plasterboard with a lower density.
- Where partition walls are required to be constructed full height to the soffit, plasterboard shall be fixed and sealed in accordance with Section 4.5.5.

4.5.2 Insulation

- Insulation shall meet the minimum density and thickness requirements where specified.
- Insulation which does not meet the required thickness as a result of creep shall not be approved.
- Insulation shall be compressed into partition cavities where required.

4.5.3 Door Seal Installation

- The tolerance gap between the door and door frame (head, jamb and threshold) shall be no greater than 3mm.
- Automatic seals shall be adjusted in accordance with the manufacturer's recommendations, including threshold plates where required.
- Fixed perimeter seals shall be installed and sized in a way so as to provide a compression seal (i.e. the door shall be required to compress the seal with some force when closed). The door shall not be able to freely move with some force applied when in the closed position. Where magnetic seals are specified, these shall not be changed to another non-magnetised type of seal
- All automatic door closure mechanisms and arms shall have their speed adjusted so as to close as slowly as possible, with particular adjustment given to latching speed or the last 10°, while still maintaining sufficient pressure to close fully, with even pressure around the door perimeter and to ensure that there is adequate compression between the perimeter seals and door.

4.5.4 Workmanship

To achieve the required sound insulation ratings, the specified forms of construction shall be built in accordance with the following requirements:

- **Framing** – no bracing shall be installed between discontinuous studs, tracks or plates, unless otherwise approved by the Principal Consultant and Enfield Acoustics.
- **Insulation** – where insulation is specified, this shall be installed to the full extent of the stud or channel framing. Gaps in insulation are unacceptable.
- **Masonry** – any masonry blockwork or concrete that has been cored or chased shall be made good before any additional framing is constructed. Seal all holes and gaps so that masonry wall extends slab to soffit. Large gaps at the soffit may be covered over with fibre cement sheet, fire-rated plasterboard or steel angle.
- **Sheeting materials** –
 - If two layers are required on one side of a wall the second layer shall be fastened over the first layer such that the joints do not coincide with those of the first layer.
 - Joints between sheets shall be taped and filled solid.
 - Joints between sheets and any adjoining construction shall provide a gap or clearance of not less than 10mm which shall then be filled with an approved acoustic sealant.
 - Timber or steel stud construction – perimeter framing members shall be securely fixed to adjoining structure.
- **Services** –
 - All access panels, access doors, GPOs or similar, A/C heads, sprinklers, ceiling registers, speakers etc. shall be selected and installed such they do not diminish the sound insulation performance of the form of construction they penetrate.
 - All access panels and doors shall be firmly fixed so as to overlap the frame or rebate of the frame by not less than 10mm, be fitted with a sealing gasket along all edges.
- **GPOs & Similar** – Unless installed in surface mounted duct trays, all GPOs and similar installed to acoustic rated walls shall be fixed with fire-rated boxes equivalent to HPM Firebox.

Note: Advice provided is only with respect to acoustics. With respect to other disciplines (eg. fire, structural, ESD), specialist advice should be sought from a suitably qualified professional.

4.5.5 Acoustic Sealants

- All acoustic seals shall be air-tight.
- Acceptable acoustic sealants shall have a specific gravity not less than 1.3 and shall have adhesion and flexibility attributes that are appropriate for the scenario under which the sealant is used.

- Acceptable acoustic sealants shall satisfy all applicable fire engineering requirements.
- Acoustic sealants shall be applied so the depth of the sealant is not less than the width of the gap being sealed.
- Gaps up to 20mm in width shall be sealed using an acceptable acoustic sealant and appropriate backing rods as required.
- Gaps greater than 20mm in width shall be infilled to a gap width not greater than 20mm using material having a surface density not less than 25kg/m² and sealed as per gaps up to 20mm in width.
- Penetrations around pipes and duct work shall be between 10mm and 20mm clear of the pipe or duct and the cavity packed with insulation having a density not less than 60kg/m³ and the gap acoustically sealed as described above.

5 Services Specification

The services sub-contractors shall be responsible for ensuring compliance with the Performance Requirements. The Principal Consultant can be contacted for assistance and/or review of plant schedules and layouts.

5.1 General

- Fans shall be selected, installed and balanced such that the associated octave band sound levels are not greater than those required to comply with the Performance Requirements.
- All ductwork set-out, alignments and lining shall be as shown on the mechanical services plans but shall also include the additional acoustic treatments required to comply with the Performance Requirements.
- All duct lining shall be of the internal acoustic type where specified.
- Duct silencers shall be selected, installed and commissioned such that flow regenerated noise does not add to the resultant noise level of the associated fan.

5.2 Works by Other Trades

Where works are required to be carried out by other trades (e.g. Building), the services subcontractor shall coordinate the following requirements as necessary. Particular attenuation shall be given to:

- Access panels
- Bulk insulation above ceilings and around plant equipment
- Plasterboard lining
- Bulkheads and plant enclosures
- Sealing of penetrations

5.3 Balancing

To minimise sound transmitted from system components to occupied spaces, fans and other related mechanical equipment and air distribution systems shall be designed, installed and commissioned as follows:

- Air distribution systems shall be designed, installed and commissioned to minimise flow resistance and turbulence.
- Fans shall be selected such that they operate as near as possible to rated peak efficiency when handling the required airflow and static pressure.
- Fans shall be selected such that they generate the lowest possible noise at required design conditions.
- Duct connections at both fan inlet and outlet shall be flexible and be designed to achieve uniform and straight airflow.
- Duct silencers shall be selected such that associated regenerated noise does not contribute to the noise of the system and such that they do not significantly increase the required static pressure of the fan. Where possible silencers with static pressure losses of 90 Pa should be used.
- Fan powered mixing boxes associated with variable-volume air distribution systems shall be located away from noise sensitive areas.
- Flow generated noise associated with elbows and duct branch take-offs shall be minimised whenever possible by locating them at least four to five duct diameters from each other. For high velocity systems, it may be necessary to increase this distance to up to 10 duct diameters for rooms requiring low noise levels.
- Airflow velocity in ducts serving noise-sensitive spaces shall be kept as low as possible by increasing the duct size to minimise turbulence and regenerated noise
- Duct transitions shall not exceed an expansion angle of 15°.
- Turning vanes shall be used in large 90° rectangular elbows and branch take-offs.
- Registers, grilles and diffusers serving occupied spaces shall be located as far as possible from elbows and branch take-offs.
- Dampers shall be located as far as possible from registers, grills and diffusers serving occupied spaces.
- All reciprocating and rotating equipment connected to structure shall be vibration isolated.

5.4 Internal Acoustic Duct Lining

Acceptable internal acoustic duct lining shall be equivalent to either:

- 32kg/m³ Bradford Supertel
- 48kg/m³ Bradford Ultratel

Acoustic duct liner facings shall be of a type that does not diminish the sound absorption performance of the acoustic lining. Acceptable liners shall have acoustic performance equivalent to:

- Bradford Ultraphon
- Bradford Thermofoil Heavy Duty Perforated
- Bradford Acoustituff

5.5 Maximum Duct & Register Air Velocities

Air distribution systems shall be designed, installed and commissioned such that duct and register velocities do not exceed the maximums stated for the respective room design sound levels shown below.

Duct Location	Design LAeq	Maximum Airflow Velocity, m/s	
		Rectangular Duct	Circular Duct
Riser or above plasterboard ceiling	50	17.8	25.4
	40	12.7	17.8
	30	8.6	12.7
Above suspended acoustic ceiling	50	12.7	22.9
	40	8.9	15.2
	30	6.1	10.2
Duct within occupied space	50	10.2	19.8
	40	7.4	13.2
	30	4.8	8.6
Type of Opening	Design LAeq	Maximum Register Neck Velocity, m/s	
Supply air outlet	50	3.2	
	45	2.8	
	40	2.5	
	35	2.2	
	30	1.8	
Return air opening	50	3.8	
	45	3.4	
	40	3.0	
	35	2.5	
	30	2.2	

5.6 Hydraulic Services

Supply water piping may only be installed in wall cavities noted in this specification under the following conditions:

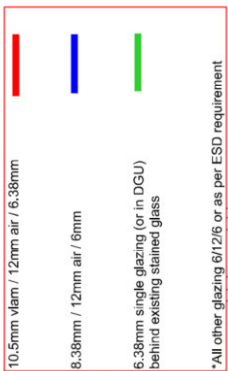
1. The supply piping is a PEX type equivalent to Rehau Rautitan; and
2. The supply piping is only fixed in a discontinuous wall cavity; and
3. The supply piping is fixed only to the wall framing for the side of wall which it serves.

5.7 Vibration Isolation & Control

Vibration isolators shall be selected not only to provide required isolation efficiency but also to ensure that the natural frequency of the isolated system is not close to the natural frequency of the supporting structure. Note that if vibration isolators are not correctly selected, the force transmitted to the structure may be amplified. Where appropriate the services contractors shall provide isolation satisfy the 'minimum static deflections' as recommended by ASHRAE, based on the range of in-service operating speeds and mass of plant.

Appendix A: Glazing Markup (Materials Specification)





GENERAL LEGEND

1 BED APARTMENT	5.0 SPANDREL GLAZING
2 BED APARTMENT	6.0 AIRING DECK
3 BED APARTMENT	7.0 SLIDING DOOR WINDOW
TOWN HOUSE	8.0 FENCE - ELECTRO BRICK
STUDIO APARTMENT	9.0 POND/ROOF FINISH
MINI.BLG. REQ.	10.0 FENCE - PROPERTY WALL

VEGETATION

BALCONY / TERRACE	11.0 LINE OF APPROVED VEGETATION
LANDSCAPING	12.0 VEGT. SCHEME
CIRCULATION	
SERVICES / CAR PARK	
GARDEN BED AREAS	

See: [BASIC NUMBER1 - BASIC and BULK for ARCHICAD 21/18/17/77 Pak 53/51/57/77 Pak 52](#)

10747-274 06/14/2010

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	

☒ QUALITY ASSURANCE (FAC IS A CERTIFIED COMPANY TO ISO 9001:2015)
THIS PROJECT IS SUBJECT TO THE QUALITY ASSURANCE SYSTEM

DATE OF REVIEW: 30/03/22

☒ SCHEMATIC DESIGN REVIEW FOR THIS PROJECT IS COMPLETE.

☐ DESIGN DEVELOPMENT REVIEW FOR THIS PROJECT IS SET TO BE COMPLETED.

☐ TENDER DOCUMENTATION REVIEW FOR THIS PROJECT IS SET TO BE COMPLETED.

☐ TECHNICAL DOCUMENTATION REVIEW FOR THIS DRAWING IS YET TO BE COMPLETED.

NOT FOR CONSTRUCTION

NOTES

PROJECT
77 PARK ST
SOUTH MELBOURNE VIC 3205

[illegible]

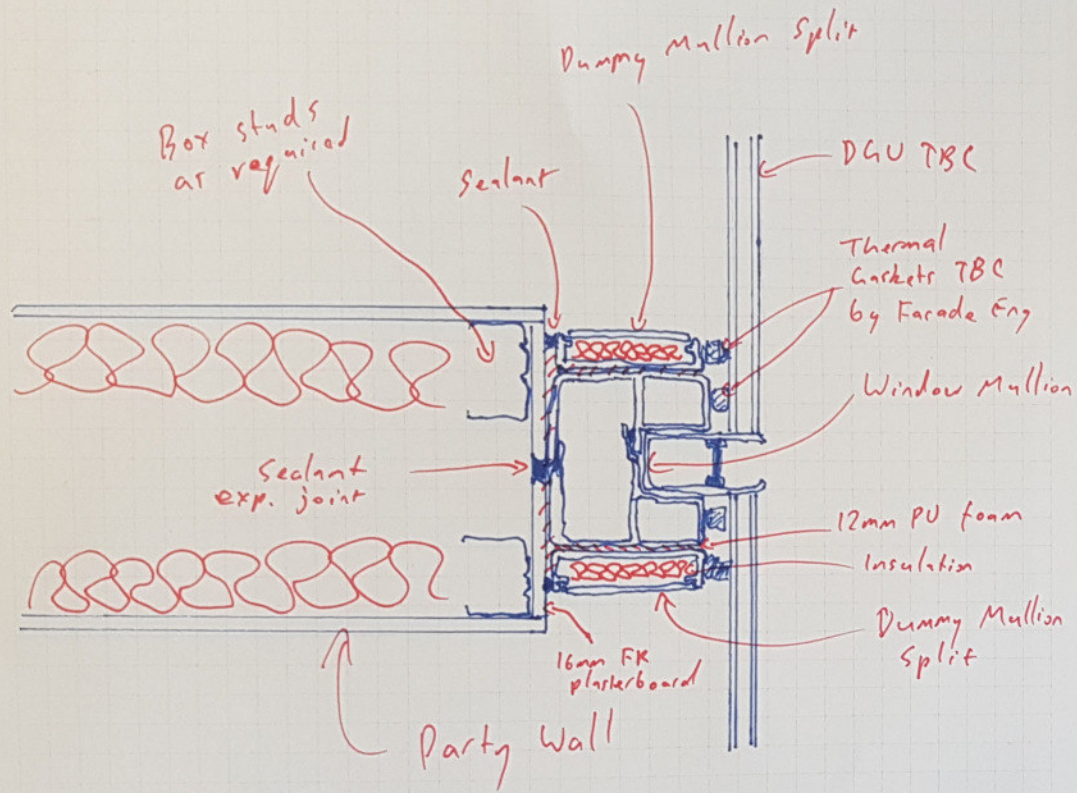
FENDER KATSALIDIS
WWW.FKAUSTRALIA.COM
2 RIVERSIDE CURY, SOUTH-BANK
VICTORIA 3006 AUSTRALIA
TELEPHONE +61 3 8696 3888

FENDER KATSAIDIS (AUST) PTY LTD AC



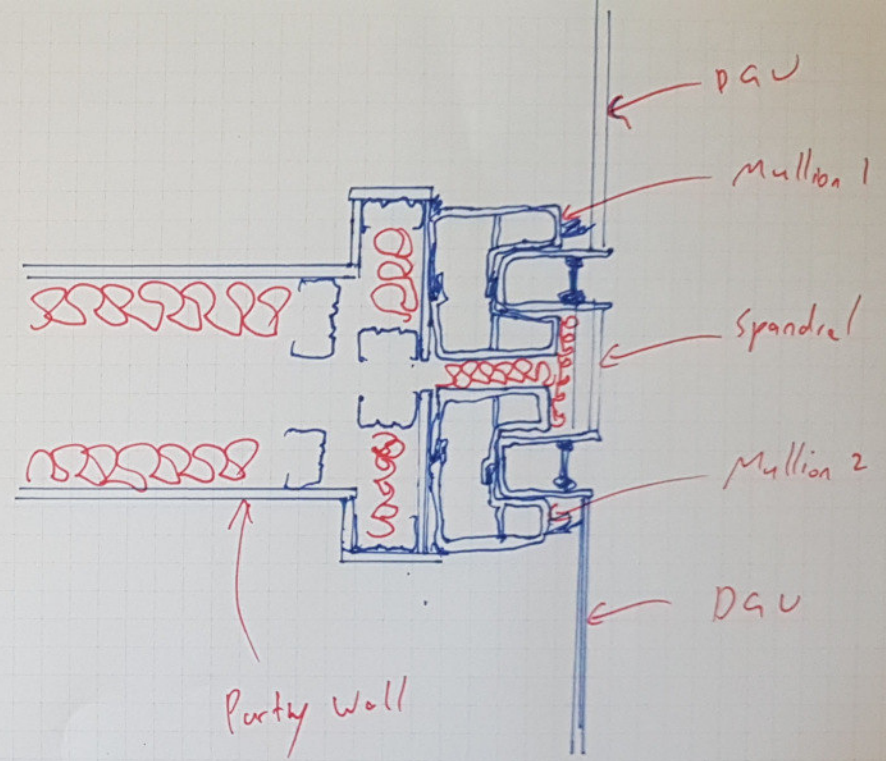
TP102

Appendix B: Wall Partition Markup and Preliminary Mullion Details



NTS

EXPOSED DUMMY MULLION OPTION



NTS

DOUBLE MULLION OPTION