

Fire Report

For

**Block 2 Upgrade
St Canice's School
24a Brougham Street
Westport**

Project: 15039

Date: 23/07/2015

Report No: FR01

Prepared: C. McGhie

Revision: 1

NZCE, BE (Civil) Hon, ME (Fire) CPEng

1. Summary of Requirements

This report identifies the following minimum requirements to meet the New Building Code Clause C1-C6 Protection from Fire for proposed upgrade of Block 2 at St Canice's School, 24a Brougham Street, Westport.

- a) A Type 2 manual fire alarm with manual call points installed in accordance with NZS 4512:2010.
- b) Emergency lights on exterior to illuminate steps in accordance with F6/AS1 and G8/AS1. These should be wired to alight on fire alarm.
- c) Doors complying with Section 8.2.5 of this report.
- d) Signage complying with F8/AS1.
- e) Surface finishes complying with section 9.3 of this report.
- f) FRR 60/60/60 fire rated wall between classrooms 2 and 3.
- g) NZ Fire Service approved evacuation plan.

Disclaimer:

This document has been prepared solely for Catholic Schools Board. The use of and reliance upon the information or opinions contained in this document by others without prior written consent from Seajay Consulting Engineers will be at such person's sole risk. Seajay Consulting Engineers accepts no responsibility or liability for the consequences of the unauthorised use of this document.

2. Table of Contents

1. Summary of Requirements.....	2
2. Table of Contents.....	3
3. Introduction.....	4
4. Statutory Requirements.....	4
4.1. Building Regulations	4
4.2. Limitations of proposed fire protection	4
4.3. New Zealand Fire Service Review	4
4.4. Hazardous Goods.....	5
4.5. Fire Service Act	5
5. Drawings.....	5
6. Proposed Building Work	5
6.1. Existing Building	5
6.2. Scope of proposed construction.....	5
6.3. Fire Risk Group and Number of Occupants	5
7. Fire Safety Precautions	6
8. Means of Escape	6
8.1. Number of escape routes.....	6
8.2. Escape route features.....	7
8.2.1. Heights	7
8.2.2. Widths	7
8.2.3. Lengths.....	7
8.2.4. External escape routes	7
8.2.5. Door requirements.....	7
8.2.6. Signs	8
8.2.7. Lighting.....	8
9. Spread of Fire	8
9.1. Horizontal fire spread within building.....	8
9.2. Penetrations	9
9.3. Interior Surface finishes	9
9.4. Horizontal fire spread to neighbouring properties.....	10
10. Ministry of Education Requirements	10
11. Conclusions	10
12. References.....	10
Appendices	11

3. Introduction

It is proposed to refurbish the existing Block 2 at St Canice's School AT 24a Brougham Street, Westport. The nature of the work includes internal alterations and relining and construction of a new external walk way and deck to the exterior.

This report addresses fire safety requirements needed to meet the Building Code Clauses C1 to C6, Protection from Fire.

4. Statutory Requirements

4.1. Building Regulations

The proposed new construction must fully comply with the requirements of the Building Regulations.

The proposed alterations to the existing building do not constitute a change of use of the building, and therefore Section 112 "Alterations to Existing Buildings" of the Building Act applies. With respect to the fire safety requirements only this requires that after the alteration the building will –

- (a) comply, as nearly as is reasonably practicable with the provisions of the building code that relate to –
 - (i) means of escape from fire; and ...
- (b) continue to comply with the other provisions of the building code to at least the same extent as before the alteration.

To show compliance with the above this report makes use of the Acceptable Solutions C/AS4 in the New Zealand Building Code. Relevant clauses of these documents are referred to in this report.

4.2. Limitations of proposed fire protection

It should be noted that the above regulations do not provide for safeguarding of occupant's property within the building. The protection of occupant's property within the building is thus outside the Building Act and also outside the scope of this report as it is not required for Building Consent. In the event of a fire in this building, partial or complete loss of property and smoke and water damage is to be expected.

4.3. New Zealand Fire Service Review

The proposed building additions and alterations do not involve building work of a kind specified in the Gazette by the Chief Executive of the Department of Building and Housing. Therefore, pursuant to Section 46(1) of the Building Act, a copy of the application for building consent need not be sent by the Building Consent Authority to the New Zealand Fire Service (NZFS) Design Review Unit (DRU).

4.4. Hazardous Goods

This report does not make reference to hazardous goods requirements in Clause F3 of the New Zealand Building Code and does not make reference to any requirements within the Dangerous Goods Regulations, Dangerous Goods Act or the Hazardous Substances and New Organisms Act. There may be additional fire protection required by the Environment Risk Management Authority or the Department of Occupational Health and Safety due to the presence of any hazardous goods in the building which are unknown to the author of the report. The classification of the fire hazard categories makes no allowance for the storage of hazardous goods.

4.5. Fire Service Act

It should be noted that apart from the minimum fire safety precautions required by this report further fire protection systems may be recommended by the New Zealand Fire Service.

A Fire Service approved evacuation scheme will be required for this building.

5. Drawings

This report is based on drawings prepared by Ian Rattray Building Consultants, Numbered Sheet 1 to 28, and dated 9/6/2015.

6. Proposed Building Work

6.1. Existing Building

The existing Block 2 building measures 37.5m by 10m in plan and comprises four classrooms and a toilet block at each end. The building is constructed from light timber framing and is connected to the administration building via a cover walkway.

6.2. Scope of proposed construction

Scope of proposed construction work to Block 2 includes internal alterations to open up the spaces, relining the existing walls and ceilings, and construction of a new external walk way and deck to the exterior.

Refer to Appendix A for architectural drawings.

6.3. Fire Risk Group and Number of Occupants

The fire risk groups and occupant numbers are shown in the Table 1 below. These are based on C/AS4 Table 1.1 and Table 1.2 .

The building has two fire cells as the wall between units 2 and 3 will be a 60 minute fire rated wall.

TABLE 1 – Fire Risk Groups and Occupant Numbers

Space	Floor Area (m ²)	Occupant Density (m ² /person)	Number of Occupants
Fire cell 1			
Classroom 1&2	140	2	70
Toilet and Store	25	Included elsewhere	-
Enclosed Walkway	40	Included elsewhere	-
Fire Cell 2			
Classroom 3&4	140	2	70
Toilets/Stores	27	Included elsewhere	-
Enclosed Walkway	48	Included elsewhere	-
Building Total	420		140

7. Fire Safety Precautions

The following fire safety systems are required:

For Fire Risk Group CA, 70 Occupants, and 0.0m escape height (C/AS4 Clause 2.2.1):

Type 2

Manual fire alarm with manual call points.

As each classroom has an escape route direct to the outside and there is a telephone available at all times for 111 emergency calls, a direct connection to the fire service is not required as there is a telephone

Type 18

Fire hydrant system

A fire hydrant system is not required as the fire service hose run is less than 75m to all parts of the building

Fire Cell Rating (C/AS4 Clause 2.3.1)

Risk Group CA	F60	Life Safety
	F120	Property Protection

8. Means of Escape

8.1. Number of escape routes

There are two escape routes from each space in the building. This meets C/AS2 Table 3.1..

8.2. Escape route features

8.2.1. Heights

The clear height within escape routes must be no less than 2100 mm (C/AS4 Clause 3.3.1), or 1955 mm at doorways. The existing and proposed escape path routes meet these requirements.

8.2.2. Widths

The minimum permitted total exit width excluding one escape route is based on 7 mm per person requiring 245 mm per classroom (C/AS4 Clause 3.3.2a). The escape routes as shown on the drawings comply with the minimum total exit width requirement.

The minimum permitted open path escape route width for horizontal travel is 850 mm and for vertical travel is 1000 mm (C/AS4 Clause 3.3.2 b). The minimum permitted width of an escape route within an exitway is 1000 mm (C/AS4 3.3.2 b i)). The escape routes as shown on the drawings comply with these minimum width requirements.

The minimum permitted door width on an open path escape route is 600 mm, or 760 mm where the escape route is required to be accessible (C/AS4 Clause 3.15.5). The doors as shown on the drawings comply with these minimum width requirements.

8.2.3. Lengths

The permitted dead end and total open path lengths are 20 m and 50 m respectively based on Type 2 alarm (C/AS4 Table 3.2). The maximum dead end and total open path lengths are 10 m and 26 m respectively which comply with the requirements.

8.2.4. External escape routes

The escape route from the classroom across the proposed open decks meet the requirements for a safe path by separation by distance as the doors are located more than 2m from the adjacent fire cell and travel along the deck is not required. (C/AS4 Clause 3.11.2).

The escape route from the classroom via the enclosed walkway meet the requirements for a safe path by separation by distance as the doors are located more than 2m from the adjacent fire cell and two direction of travel is available from classroom 1. (C/AS4 Clause 3.11.2).

8.2.5. Door requirements

All doorsets on escape routes must comply with the following (C/AS4 Clause 3.15):

1. Within escape routes and at final exits, be:
 - a) Hinged or pivoted on one vertical edge only.
 - b) Fitted with panic bolts where a locking device to prevent unauthorised entry is required.
 - c) Fitted with door handles which satisfy the requirements for use by people with disabilities.

- d) Constructed to ensure that the forces required to open the doors do not exceed 67 N to release the latch, 133 N to set the door in motion, and 67 N to open the door to the minimum required width.
- 2. Whenever the building is occupied any locking device must:
 - a) Be clearly visible, located where such a device would normally be expected, designed to be easily operated without a key or other security device, and allow the door to open in the normal manner.
 - b) Not prevent or override the direct operation of panic bolts fitted to any door.
 - c) If of an electromechanical type, in the event of a power failure or door malfunction either
 - i) Automatically switch to the unlocked condition; or,
 - ii) Be readily opened by an alternative method complying with (a) above.
- 3. When multi-leaf, have no single leaf less than 500 mm wide.
- 4. Open in the direction of escape, except if the number of occupants using the door is less than 50.
- 5. Within exitways, reduce the minimum exitway width by no more than 125 mm
- 6. Open no less than 90°.
- 7. Open onto a floor area having no change in level for the width of the escape route and length equal to the arc of the door swing.
- 8. When opened, not cause the door swing to reduce the minimum required width of any escape route
- 9. Vision panels are required in doors which
 - a) are hung to swing both ways; or,
 - b) subdivide corridors used as escape routes

The proposed doors generally meet the above requirements. Door handles and locking devices will need to meet the above requirements.

8.2.6. Signs

The building must have signs complying with Approved Document F8/AS1 on escape routes and on fire and smoke control doors. Signs are required to clearly indicate each exit door, and to be fixed at each point in the building where the exit doors are not visible in normal use.

8.2.7. Lighting

Buildings must be provided with emergency artificial lighting to comply with F6/AS1 and G8/AS1 where escape path length exceeds 20m and vertical travel is required. Therefore emergency lighting is required on the external decks and enclosed walkway to illuminate the steps and ramps.

9. Spread of Fire

9.1. Horizontal fire spread within building

The building is constructed as two firecells. The wall between classrooms 2 and 3 is to be constructed with a fire resistance rating (FRR) of 60/60/60. Use Winstones Gib® GBTL 60 system comprising 1 layer of 13mm thick Gib Fyrelite on each side of the wall. The fire rating will need to extend to the underside to the roofing and the gap between the wall and the roof sealed with a flexible fire sealant.

9.2. Penetrations

All new penetrations through fire rated construction must be sealed with a fire rated sealing system that is suitable for the intended use. The penetration sealing system must maintain the fire resistance rating of the element penetrated.

9.3. Interior Surface finishes

All new interior surface finishes on ceilings and walls are required to meet the following group numbers in accordance with C/AS4 Table 4.2:

Classrooms	Wall Linings	2S
	Ceiling Linings	2S
Enclosed walkway	Wall Linings	2S
	Ceiling Linings	2S
Toilets and Storerooms	Wall Linings	3
	Ceiling Linings	3

Flooring shall meet a minimum critical heat flux of not more than 2.2kW/m² and 1.2kW/m² for the classrooms/walkway and toilets/stores respectively. (C/AS4 Table 4.2).

Suspended flexible fabrics should have a Flammability Index of not greater than 12 when tested to AS 1530.2 in accordance with C/AS4 Clause 4.17.8.

The proposed linings are as follows:

Table 2: Lining Compliance

Location	Surface	Proposed Lining	Group Rating	Compliance
Classroom	Ceiling	Daiken Dai Lotone T&G Tiles	1S	Yes
	Wall	Autex Composition Board	1S	Yes
	Floor	Tandus 06145 Anadante carpet tiles	4.5kW/m ²	Yes
Toilets	Ceiling	Existing Painted Gib Plasterboard	1S	Yes
	Wall	Existing Hardiglaze	1S	Yes
	Floor	Existing Vinyl	Unknown Heat Flux	Likely to comply with 1.2kW/m ² requirement
Store	Ceiling	Painted Gib Plasterboard	1S	Yes
	Wall	Painted Gib Plasterboard	1S	Yes
	Floor	Tandus 06145 Anadante carpet tiles	4.5kW/m ²	Yes
Store	Ceiling	Exposed Iron	1S	Yes
	Wall	Painted 9mm Titan Hardie	1S	Yes
	Floor	Timber deck	2.2kW/m ²	Yes

Refer to Appendix C for lining data sheets.

9.4. Horizontal fire spread to neighbouring properties

The existing building is no closer to the Northern, Eastern and Southern boundaries and as such meets the requirements of Section 112 of the Building Act.

The West wall of the building is being extended 2m closer to the west boundary with the addition of the enclosed walkway. The proposed west wall is approximately 70m (greater than 16m) from the west boundary and as such is permitted to be unprotected C/AS4 Table 5.2.

10. Ministry of Education Requirements

The ministry of Education has the following requirements regarding the fire safety design of school buildings:

- a) For unsprinklered classroom or assembly hall buildings up to 250 occupants and no more than two floors a Type 2 – manual alarm system with manual call points.
- b) A Fire Service approved evacuation scheme for schools (buildings) containing more than 100 students or 10 teachers otherwise an evacuation procedure.
- c) A fire separation of FRR 60/60/60 is required to subdivide classroom blocks into firecells containing no more than three classrooms.

The proposed classroom refurbishment complies with the above requirements.

11. Conclusions

Provided that the fire protection features as described in this report are implemented and the construction is as shown by the referenced drawings, it is our opinion that the proposed alterations at Block 2 St Canice's School, 24a Brougham Street, Westport will meet the requirements of the New Zealand Building Code for means of escape as nearly as is reasonably practicable, and will continue to meet the other provisions of Clause C of the New Zealand Building Code to at least the same extent as before the alterations.

12. References

New Zealand Building Code C/AS4 - Acceptable Solution for Buildings with Public Access and Educational Facilities(Risk Group CA).

New Zealand Building Code F6/AS1 – Visibility in Escape Routes.

New Zealand Building Code F8/AS1 – Signs.

New Zealand Building Code G8/AS1 – Artificial Light

NZS 4512:2010 New Zealand Standard – Fire Detection and Alarm Systems in Buildings

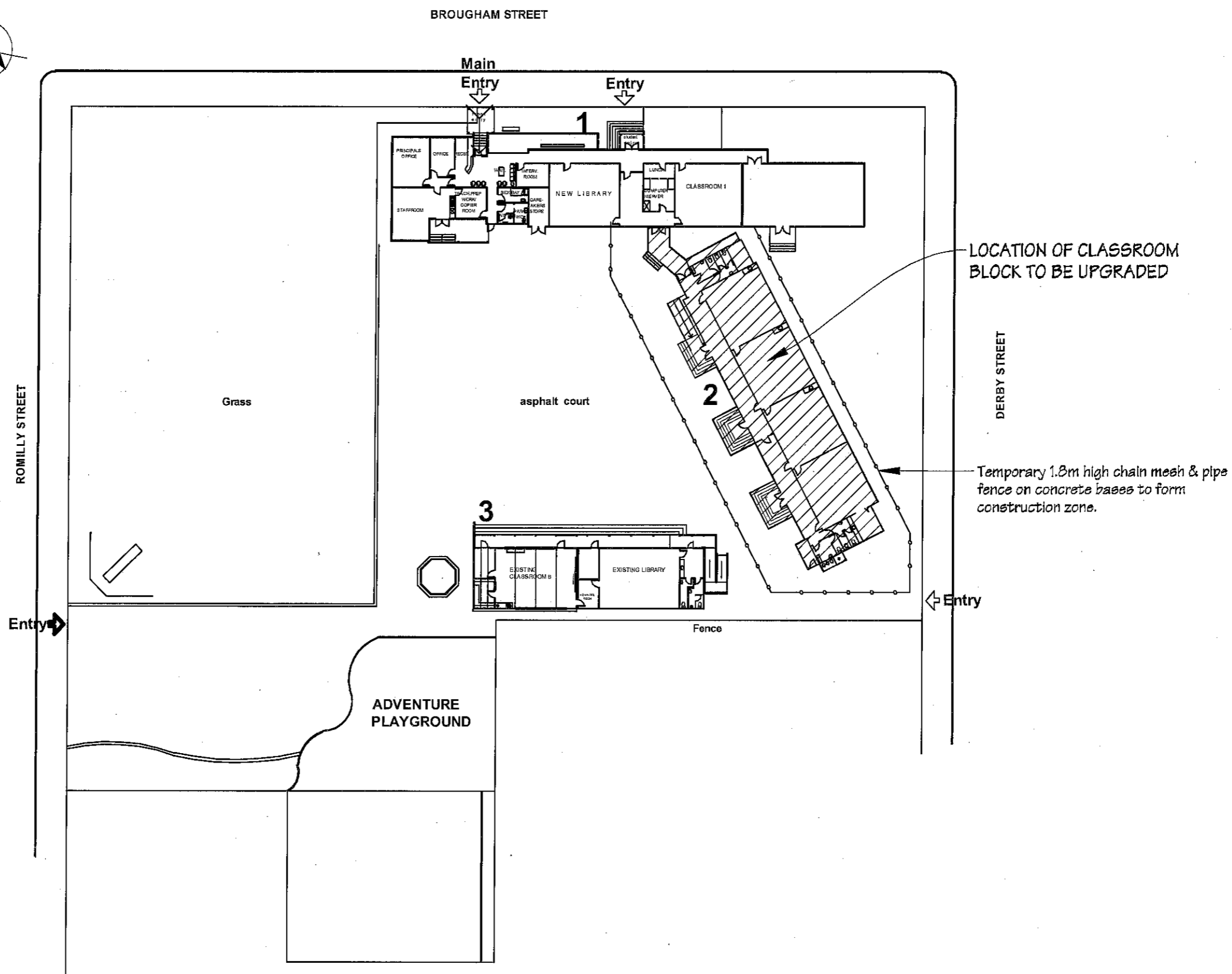
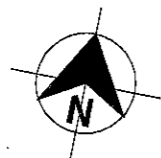
Gib Fire Rated Systems – Specification and Installation Manual – Oct 2012

Appendices

Appendix A	Architectural Drawings
Appendix B	15039 – F1 : Fire Safety Plan
Appendix C	Wall Lining Data Sheets
Appendix D	Winstone Gib® GBTL 60 Fire rated wall data sheet

Appendix A

Architectural Drawings

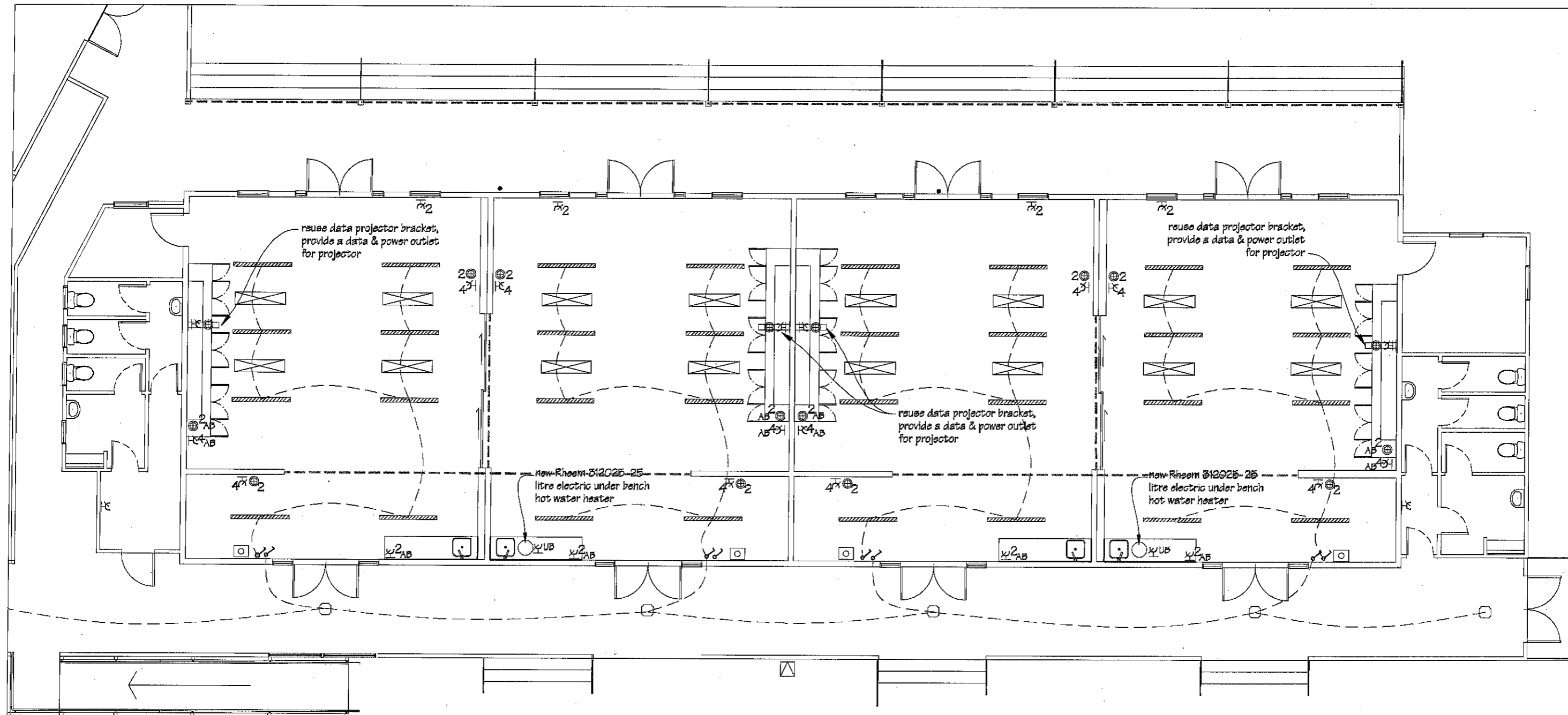


Ian Rattray Building Consultant
P. O. Box 40651
Upper Hutt 5140

Phone (04) 526-7711
Mobile 021-427-347
Email ian@irbuild.co.nz
Web www.irbuild.co.nz

St Canice's School
24a Brougham Street
Westport

PROJECT		DRAWING TYPE		REVISIONS		Scale		Preliminary Drawings
Block 2 Upgrade		Existing Site Plan		No	Date Description	1:500	9/6/2015	
						Original sheet size	A3	
						Drawn	S.T.	
						Sheet No	1 of 28	Do not scale from drawings. Check all dimensions on site.



LEGEND

EXIT exit sign

New fluorescent light fitting
PP 2UG5 with prismatic diffusers.

Thorn 2D light fitting

One way switch 10A flush mounted

Switched socket outlet 10A double
flush mounted, located above bench.

Switched socket outlet 10A quad
flush mounted, located above bench.

Switched socket outlet 10A double
flush mounted, located 400mm above FFL.

Switched socket outlet 10A quad
flush mounted, located 400mm above FFL.

Switched socket outlet 10A single
flush mounted, located under bench.

Switched socket outlet 10A single
flush mounted, located under bench.

Double data outlets,
located above bench

Double data outlets,
located 400mm above FFL.

Fire alarm call points

Fire alarm bell

Reuse existing ceiling
mounted heaters



Ian Rattray Building Consultant
P. O. Box 40-651
Upper Hutt 5140

Phone (04) 526-7711
Mobile 021 427 347
Email ian@irbuild.co.nz
Web www.irbuild.co.nz

St Canice's School
24a Brougham Street
Westport

PROJECT
Block 2 Upgrade

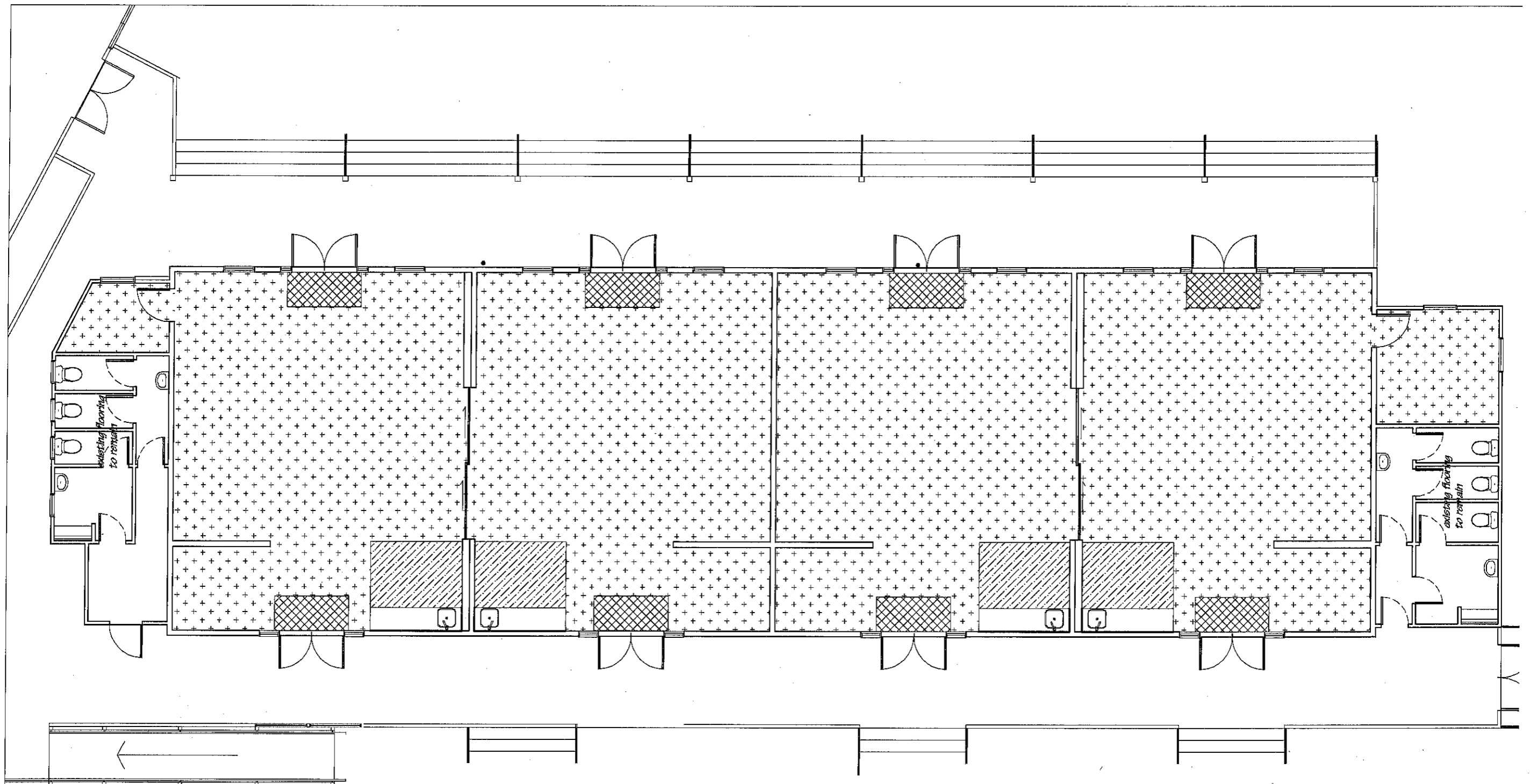
DRAWING TITLE
Electrical Plan

REVISIONS
No Date Description

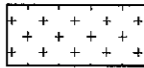
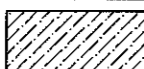
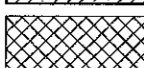
Scale 1:100
Date 9/6/2015
Original sheet size A3
Drawn S.T.
Sheet No 8 of 28

Preliminary Drawings

Do not scale from drawings.
Check all dimensions on site.



KEY

-  New carpet to be Tarkett Optima 06145 Andante
500x500mm carpet tiles covered to 200mm
-  Tarkett Optima vinyl flooring, covered to 200mm.
-  Autex Widespread carpet



Ian Rattray Building Consultant
P. O. Box 40-651
Upper Hutt 5140

Phone (04) 526-7711
Mobile 021427.347
Email ian@irbuild.co.nz
Web www.irbuild.co.nz

St Canice's School
24a Brougham Street
Westport

PROJECT
Block 2 Upgrade

DRAWING TITLE
Floor Coverings Plan

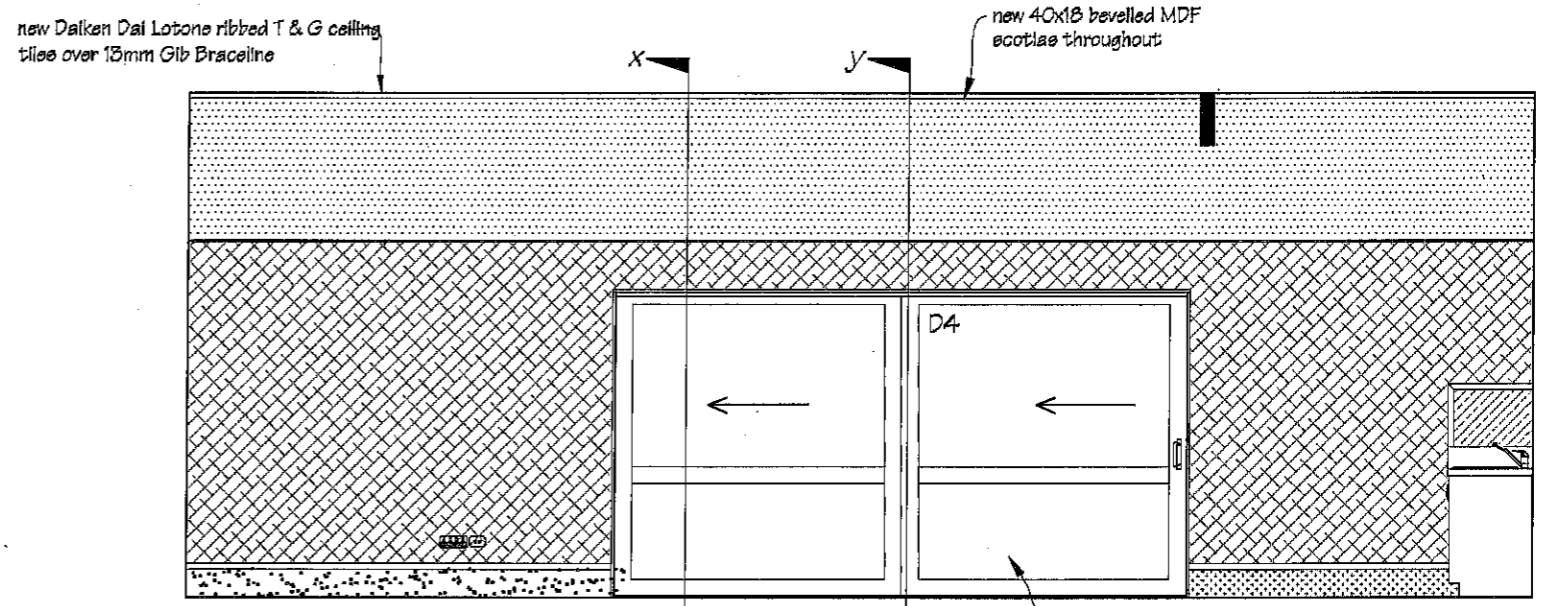
REVISIONS	
No	Date Description

Scale	1:100
Date	9/6/2015
Original sheet size	A5
Drawn	S.T.
Sheet No	8 of 28

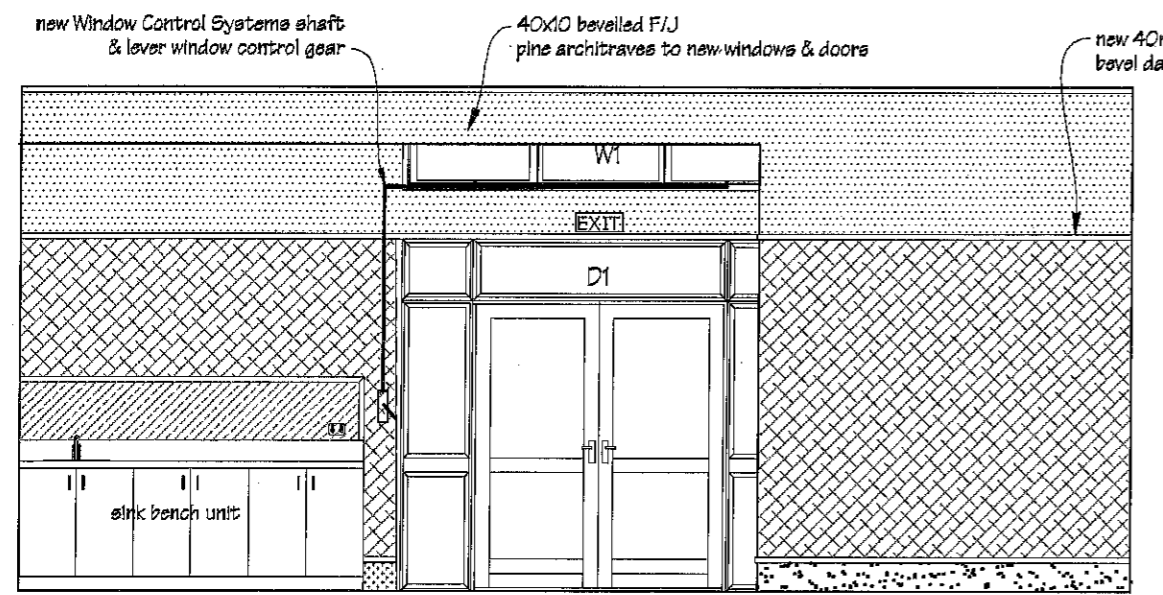
Pricing/Building Consen
Drawings
*Do not scale from drawings.
Check all dimensions on site*



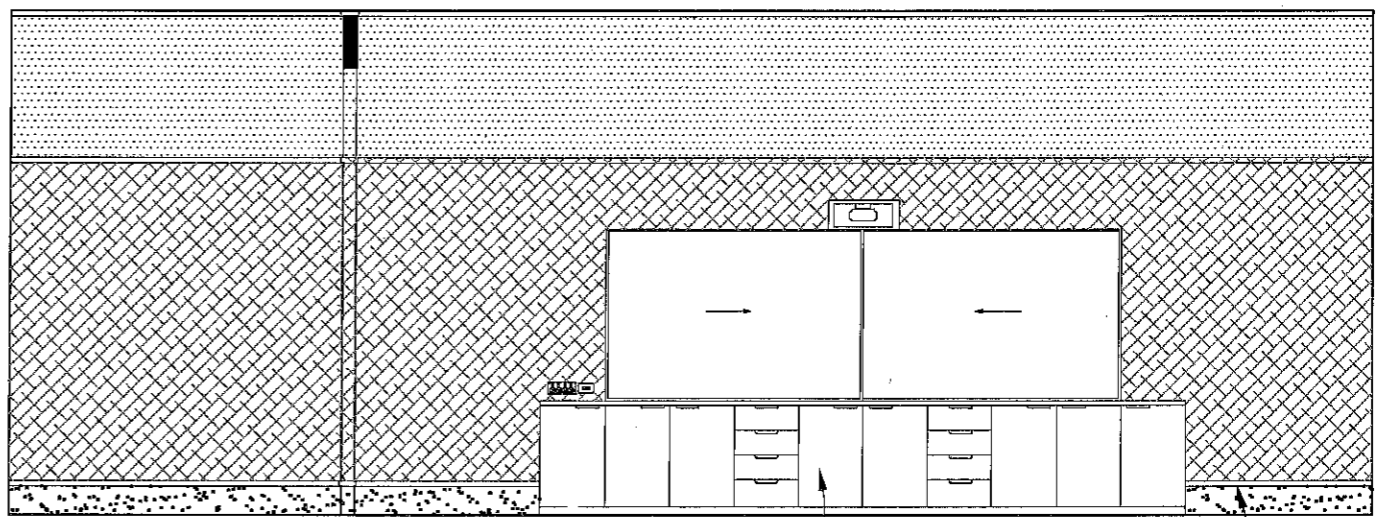
Elevation 1



Elevation 2



Elevation 3




Elevation 4

Wall Coverings Legend

- Painted Gib Board wall linings.
- Autex Composition Board over Gib Board.
- 4.5mm HandleGlaze Smooth wall lining.
- Tandus 06145 Andante 500x500mm carpet tiles covered to 200mm
- Tarkett Optima vinyl flooring, covered to 200mm.

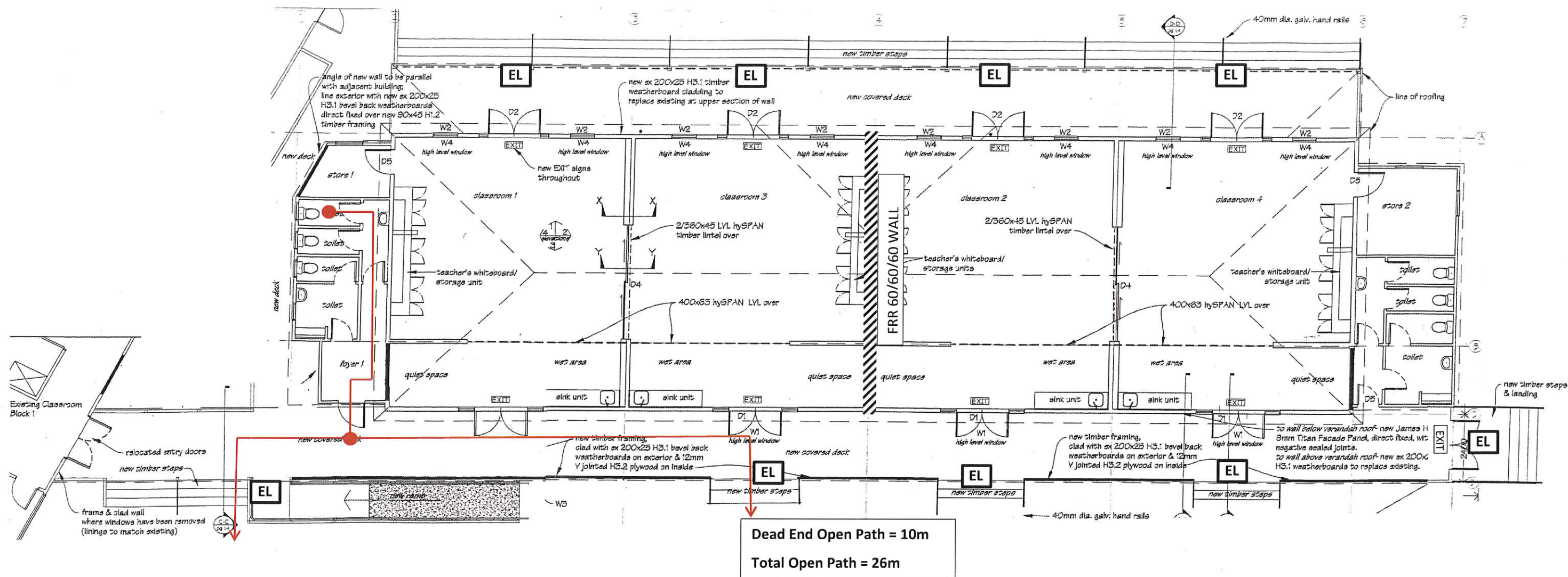
NOTE:
Classroom interior elevations are typical, details & set out vary between rooms.
Check floor plan drawing for handling.
Check all dimensions on site.

Painting:
Allow to paint walls not covered in Autex Composition Board, architraves, dado rails, scotlae, skirtings & all miscellaneous timber trim.

 Ian Rattray Building Consultant <small>ESTABLISHED 1984</small>	Ian Rattray Building Consultant	Phone (04) 526-7711	St Canice's School	PROJECT	DRAWING TITLE	REVISIONS	Scale	1:50	Preliminary Drawings			
	P. O. Box 40-651	Mobile 021-427-347	24a Brougham Street				No	Date		Description	Date	9/6/2015
	Upper Hutt 5140	Email ian@irbuild.co.nz	Westport				Original sheet size	A3		Drawn	S.T.	
		Web www.irbuild.co.nz					Sheet No	26 of 26		Do not scale from drawings. Check all dimensions on site.		

Appendix B

15039 – F1 : Fire Safety Plan



BLOCK 2 - PLAN

NTS

NOTES:

- A Type 2 manual fire alarm with manual call points supplied and installed in accordance with NZS 4512:2010. Connect new alarm features to existing system as necessary.
- Emergency lights **EL** on exterior to illuminate steps in accordance with F6/AS1 and G8/AS1. These should be wire to alight on fire alarm.
- Doors complying with Section 8.2.5 of the fire report.
- Signage **EXIT** complying with F8/AS1.
- Surface finishes complying with section 9.3 of this report.
- FRR 60/60/60 fire rated wall between classrooms 2 and 3.
- NZ Fire Service approved evacuation plan.



CLIENT:	CATHOLIC SCHOOLS BOARD	DATE:	23/07/2015	DRAWN:	CJM
PROJECT:	ST CANICE'S SCHOOL BLOCK 2 - UPGRADE	JOB No:	15039		
TITLE:	FIRE SAFETY PLAN	SHEET No:	F1	REV:	0

Appendix C

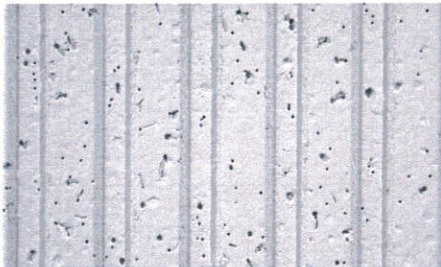
Wall Lining Data Sheets



INTERIOR SYSTEMS
creating quality ambient spaces

/w/ www.tr-interiorsystems.co.nz
/p/ 0800 666 556
/e/ info@tr-interiorsystems.co.nz

DAIKEN DAI LOTONE T & G Staple and Glue Direct Fix Ceiling Tile



Daiken Dai Lotone is a high density tongue and groove mineral fibre ceiling tile with a white painted finish designed for direct fix applications to new and existing gypsum board or timber battens. No additional painting required.

- Daiken T&G ceiling tiles have superior noise absorption.
- A mid-range tile.
- Daiken Dai Lotone Ceiling tiles are manufactured to produce porous properties with a low specific gravity and therefore exhibits efficient thermal insulation and sound absorption qualities, while resisting sound transmission more effectively than glass fibre products.
- Effective thermal insulation (more than 6 times gypsum board).
- Due to its high density and fine grained substrate, Daiken can achieve unique and high quality detailing in their tiles. This is reflected in the Rib 501 pattern.
- Daiken T&G ceiling tiles have outstanding fire resistance.
- Daiken Mineral Fibre Acoustic Ceiling materials are not only non-combustible but is less likely to emit gas or smoke, or to melt, break or become deformed under normal fire conditions.
- 30 year lifetime system warranty to withstand conditions up to 40° - 99% relative humidity without visible sag.



EMISSIONS, SUSTAINABILITY AND THE ENVIRONMENT - For Green Star rated projects, Daiken "Excel - Tone MR" mineral fibre tiles were independently verified and meet the Greenguard Emission Certificate standard. Fire Tested - BRANZ 1- S

Wellington Head Office
12 Glover St., Ngauranga
Wellington 6035
PO Box 38533
Wellington Mail Centre 5045
/t/ 04 499 5915
/f/ 04 499 5916

Auckland
19 - 21 Fairfax Ave,
Penrose, Auckland 1061
PO Box 112360,
Penrose, Auckland 1642
/t/ 09 571 0395
/f/ 09 571 0376

Christchurch
69 Disraeli St., Addington
Christchurch 8023
PO Box 7197
Christchurch 8240
/t/ 03 366 2507
/f/ 03 366 2508




INT&RIOR SYSTEMS
creating quality ambient spaces

/w/ www.tr-interiorsystems.co.nz
/p/ 0800 666 556
/e/ info@tr-interiorsystems.co.nz

DAIKEN DAI LOTONE T & G Staple and Glue Direct Fix Ceiling Tile

NRC **HIGH**
CAC **LOW**

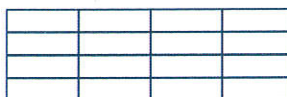
TEST DESCRIPTION	RESULT	TEST METHOD
Noise Reduction Coefficient for speech range 500 – 4000 Hz	NRC 0.68 - 0.70	ASTM C 423
CAC	Depends on existing ceiling	ASTM E 413
Light Reflectance	LR 1 (over 75%)	ASTM C 523
Weight	Rib: 3.65kg/m ² Non-Rib: 2.72kg/m ²	
Moisture Content	1.5%	JIS A 6307
Thermal Conductivity	0.051 kcal/mh °C	JIS A 1412
Fire Test	Group 1-S 	BRANZ Cone Calorimeter BC C/AS1-AS27

- SIZE**
Non Rib: 9mm Depth x [606 x 303]
Rib: 12mm Depth x [606 x 303]
Other sizes available on request.

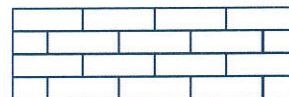
- COLOUR**
White

INSTALLATION

Tiles should be installed in accordance with the manufacturers / distributors recommendations. The use of clean hands or gloves is recommended when installing tiles. We recommend the ashlar pattern for aesthetic appeal and ease of installation.



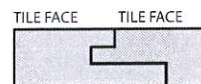
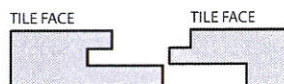
Line Through Pattern



Ashlar Pattern

EDGE DETAIL

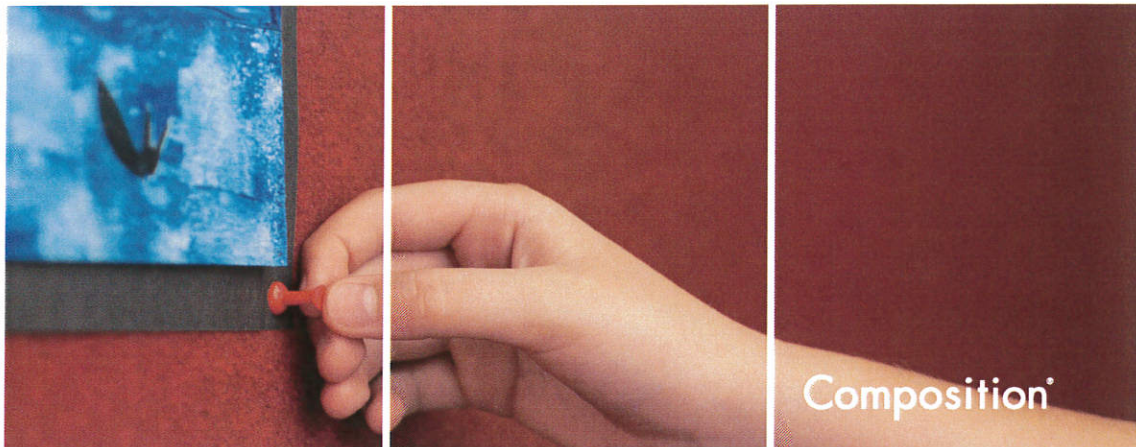
Tongue and Groove



Wellington Head Office
12 Glover St., Ngauranga
Wellington 6035
PO Box 38533
Wellington Mail Centre 5045
/t/ 04 499 5915
/f/ 04 499 5916

Auckland
19 - 21 Fairfax Ave,
Penrose, Auckland 1061
PO Box 112360,
Penrose, Auckland 1642
/t/ 09 571 0395
/f/ 09 571 0376

Christchurch
69 Disraeli St., Addington
Christchurch 8023
PO Box 7197
Christchurch 8240
/t/ 03 366 2507
/f/ 03 366 2508



Reduce reverberated noise and add a vibrant feature to your environment with Autex Composition®.

An acoustic and decorative wall fabric, Composition® is the simple choice for managing echo and creating a durable interior solution. Available in a range of over 25 classic colours with hook-and-loop receptive surface, Composition® provides the freedom to create a unique look in any space.

Made from Vertiface® fabric laminated to an acoustic, needle-punched and thermally bonded 100% polyester backing, Composition® reduces the need for extensive wall preparation and painting.

Transform your walls into acoustic notice boards by taking advantage of Composition's pinnable and hook-and-loop receptive surface, providing the perfect complement for primary schools and daycare, commercial offices, libraries and the hospitality industry.

Made from 100% polyester fibre; Composition® contains a minimum of 60% recycled content and is manufactured under Autex's ISO 9001 and ISO 14001 accredited Quality and Environmental Management Systems. It is also moisture resistant so that it won't stain, rot or break down making Composition® the safe, non-toxic, long-lasting and sustainable acoustic wall treatment.

Key Features and Benefits

- Excellent acoustic performance
- Available in a wide range of colours
- Custom colour printing available
- Limitless branding and design possibilities with in-house custom cutting
- Also available in a range of 600mm x 600mm Peel 'n' Stick tiles for personal design freedom
- Light-weight and easy to handle
- UV stabilised and resistant to colour fade
- Pin, staple and hook-and-loop receptive allowing Composition® to be utilised as a display board
- Non-zip and non-fray for use with cut-ins and creating logos
- Made from 100% polyester fibre without chemical binders and certified low VOC
- Manufactured using a minimum of 60% post-consumer recycled material
- Highly durable providing long-term stability and performance
- Safe, non-toxic, non-irritant and non-allergenic
- Made in New Zealand and Australia
- Manufactured under ISO 9001 and ISO 14001 Quality and Environmental Management Systems
- Does not contain any Red List chemicals *

Applications

- Decorative and functional acoustic wallcovering for education, retail and commercial interiors
- Minimise noise in interior environments
- Media for creative solutions
- Acoustic pinboard and hook-and-loop surface for education and commercial sectors

Colour Options

Composition® is available in a range of colours to suit many different applications.

Refer to the Composition® Colour Guide available from the Autex website or your Account Manager.

Specification:

(Wall) treatment shall be **Autex Composition®** from non-woven needle-punched polyester containing not less than 60% post-consumer recycled material as manufactured by Autex www.autexindustries.com

Roll 10-12mm (nom.) depth, colour [], sound absorption: Class D, NRC 0.40. Fire ratings: ISO 9705: Classification: Group 1-S, AS ISO 9705 - 2003: Classification: Group 1, EN13501-1:2007+A1 2009: Classification: B - s1, d0

Install as per Autex recommendations.

If Composition® is to be specified for use other than as a wallcovering, please seek guidance from your Autex Account Manager.

* Green Building Using GreenSpec's, certifies non-hazardous
www.envirospec.co.nz or contact: Helen Abbott, Manager

Product Specifications

Product Name	Composition®
Composition	100% Polyester Fibre (PET)
Roll Dimensions	1.22m x 25m
Thickness	10-12mm
Weight	Typically 1600gsm
Finish	Available in fine velour
Hook-and-Loop	Hook size 1.5mm or less

Installation

Install as per Autex recommendations.
If Composition® is to be specified for use other than as a wallcovering, please seek guidance from your Autex Account Manager.

Fastness to Light

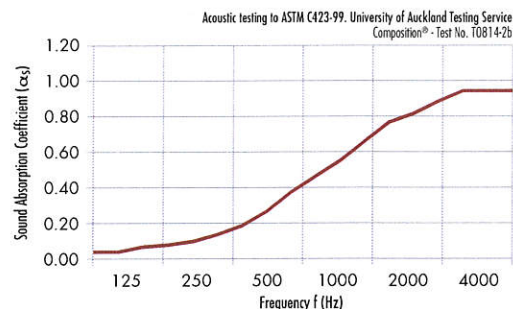
Composition® is suitable for indoor use only and has been tested to the following standard:
ISO 105-B02-1994 (Grey Scale 1-5)
Light Fastness Rating: 3

Thermal Performance

Composition® R0.22 (@15°C)

Acoustic Performance

Composition® is specifically designed to reduce and control reverberated (echo) noise in building interiors.
Minimum Noise Reduction Coefficient 0.40



Frequency (Hz)	100	250	500	1000	2000	4000	NRC
Composition®	0.05	0.10	0.25	0.55	0.80	0.95	0.40

Fire Ratings

ISO 9705: 1993
Classification: Group 1-S
Smoke Production Rate: <5.0m²/s
As required by NZBC C/VM2

AS ISO 9705 - 2003

Classification: Group 1
(SMOGRARC): <100m²/s²
As required by BCA C1.10

Fl 48/94 tested 6th June 2012

EN13501-1:2007

B - s1, d0
Report 189033 dated 7th December 2009

VOC Emissions

Autex polyester has been tested by Cetec Pty Ltd (Report: CV080408) for chemical emission and is classified as low VOC.
VOC concentration: 0.01 mg/m³

Moisture Absorption

Polyester fibre when exposed to an atmosphere of 50°C at 90% relative humidity for four days showed moisture absorption of less than 0.03% by weight. Polyester is not affected by moisture, mould or mildew and will not rot or deteriorate in intended use situations.

Fabric Care

Blot spills from fabric quickly. Wipe with a damp cloth. Avoid rubbing and excessive amounts of water as this will affect the finish. Use carpet or upholstery shampoo as directed. Blot with a clean dry cloth after each application of solution. Custom printed Composition® requires the services of a specialist cleaning company.

Pattern Repeat

Non-woven. No pattern repeat but product has directional grain. Product may vary from samples and batch to batch due to fibre blending and lay-up which is an inherent feature of this product.

Impact Resistance

Composition® has been impact resistance tested to EN13964:2004 and meets the criteria of Class 1A; not adversely affected at impact velocities over 16.5m/s.

Environmental

Autex is committed to best practice through our ISO 9001 and ISO 14001 accredited Quality and Environmental Management Systems.

Composition® products contains a minimum of 60% previously recycled polyester fibre (from PET bottle-flake) ensuring comparatively low embodied energy. Off-cuts and manufacturing waste is re-used or recycled wherever possible.

Uncontaminated Composition® can be recycled.

Composition® is manufactured from 100% polyester fibres and does not contain formaldehyde binders. Autex polyester fibres support safer indoor air quality and will not become a potential airborne pollutant.

Service

For further information about Composition® or any other Autex product, please contact your Autex Account Manager or visit our website.

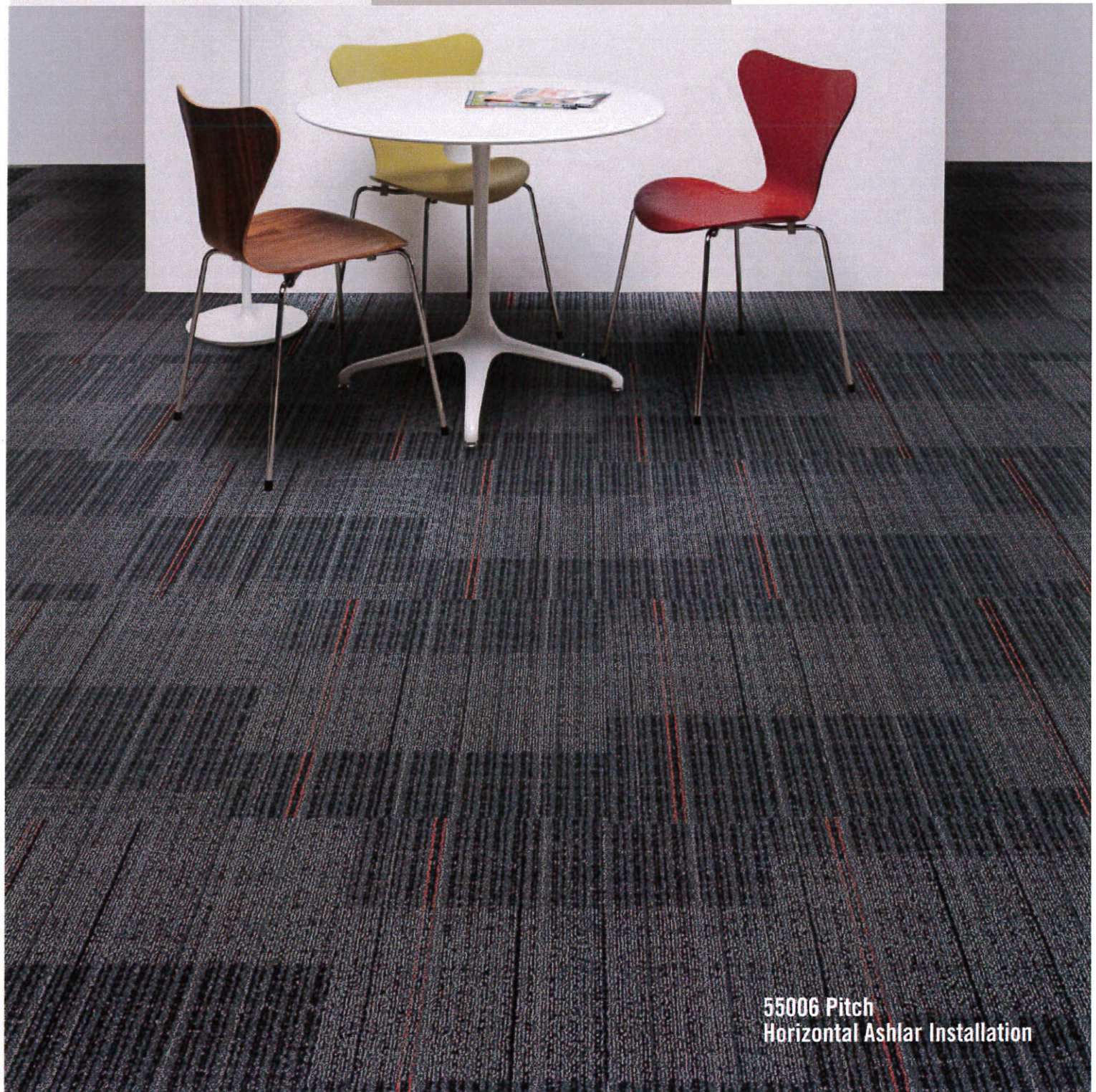
Composition® is a trademark of Autex Industries Limited and Autex Pty. Composition® is proudly manufactured in New Zealand by Autex Industries Ltd and in Australia by Autex Pty Ltd.

06145
ANDANTE

Rhythms Series

Explores the movement marked by the speed of strong and soft elements within a space. Consisting of three different patterns, this series depicts different rhythm intervals, all working as a changeable irregular configuration.

 **Tandus**
FLOORING



55006 Pitch
Horizontal Ashlar Installation



 **Tandus**
FLOORING

55006 Pitch
Quarter Turn Installation



55006 Pitch
Random Installation

06145 ANDANTE

Andante - illustrates the rhythm of a constant walking pace, coupled with a double accent stripe.

Tandus
FLOORING



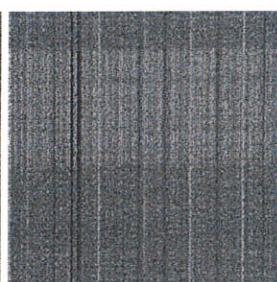
55001 Sound



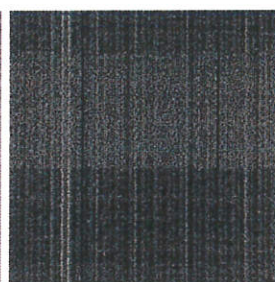
55002 Verse



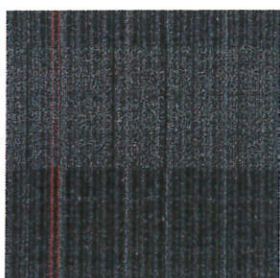
55003 Movement



55004 Meter



55005 Measure



55006 Pitch



55007 Symphony



55008 Syncopate



55009 Hyperbeats



55010 Motion



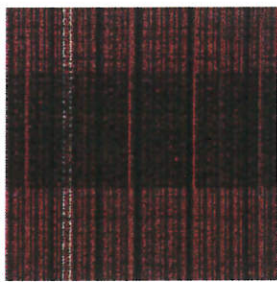
55011 Speed



55012 Pace



55013 Percussion

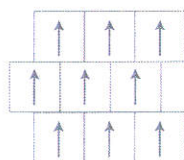


55014 Firenote

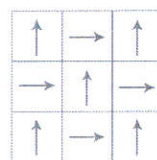


55015 Drum

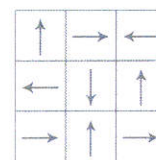
Installation Instructions:



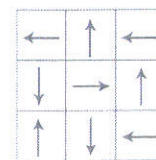
Horizontal Ashlar



Quarter Turn



Random



Non-directional

Coordinates: Lento, Tempo, Wildflower Accents

AsiaSamples@tandus.com
tandus.com

South China 86.21.6405.3578
Hong Kong 852.8203.8330

North China 86.10.8532.5820
India 91.80.3241.6204

Suzhou 86.512.6283.2669
Singapore 65.6346.1585

Guangzhou 86.20.8451.6737
US 800.248.2878

06145
ANDANTE



Tandus
FLOORING

PRODUCT INFORMATION

Product Size	500 mm x 500 mm (19.7" x 19.7")
Construction	Patterned Loop
Gauge	1/13 (50.4 rows/10 cm)
Fiber System	Dynex® Nylon
Density Factor	6,850 oz/yd ³ UM44D
Dye Method	Solution Dyed
Total Product Weight	4.235 g/m ² ± 5%
Pile Height Average	2.8 mm ASTM D-418
Soil Resistance	ENSURE
Indoor Air Quality	All Tandus products comply with CRI Green Label Plus Standards ID: #GLP5288. Passes GB 18587-2201
Backing	ECOBOND™ Recycled Content Backing
Recycled Content	Contains approx. 32% overall recycled content including a min.30% post-consumer content.
Surface Flammability	Passes CPSC FF 1-70 ASTM D-2859
Flooring Radiant Panel	Class I (Mean average CRF: 0.45 watts/cm ² or higher) ASTM E-648
Electrostatic Propensity	3.0 kV or lower AATCC 134
Colourfastness to Light	≥4 after 100 hours AATCC 16E
Fluorine	Minimum 500 ppm - Minimum 400 ppm after two hot water extractions CRI TM-102
Recycling:	[CERTIFIED] All vinyl products, when recovered, are 100% recyclable



PRODUCT NOTES:

1. Product specifications are derived from averages resulting from normal manufacturing tolerances in yarn, fiber, temperature, humidity and colour. Product specifications may vary within normal industry and standardised testing tolerances.
2. These specifications reflect mean averages based upon tests of production runs of this carpet style by independent laboratories. A range of variances is implicit in the testing process. Furthermore, the standard test methods established to derive the specifications lack a degree of precision and repeatability; therefore, individual test results on the actual carpet purchased may differ from the specifications above.
3. Colours may vary slightly from dye lot to dye lot.
4. Backing or other materials may be changed without prior notice when shortages occur or when technological advancements become available which provide for improvement of the product's performance.
5. All ECOBOND™ products are 100% recyclable.

WARRANTY

Limited 15 years non-prorated surface wear, static, delamination, edge ravel, zippering and backing resiliency loss. See warranty for details.
Contact the Tandus Representative nearest you for detailed specifications, limited warranty and sample requests.

AsiaSamples@tandus.com
tandus.com

South China 86.21.6405.3578
Hong Kong 852.8203.8330

North China 86.10.8532.5820
India 91.80.3241.6204

Suzhou 86.512.6283.2669
Singapore 65.6346.1585

Guangzhou 86.20.8451.6737
US 800.248.2878

4 Design

4.1 COMPLIANCE

HardieGlaze Lining complies with section 3.1.2 of clause E3/AS1 of the New Zealand Building Code (NZBC). HardieGlaze Lining must be installed in accordance with this specification to satisfy the relevant provisions of the NZBC.

4.2 DURABILITY

HardieGlaze Lining is not susceptible to long-term moisture damage. When jointing, sealing, flashing and coating details (as outlined in this specification) are maintained, HardieGlaze Lining is expected to have a serviceable life of at least 15 years.

4.3 FOOD PREPARATION AND PREVENTION OF CONTAMINATION

The surface of HardieGlaze Premium Lining also complies with the requirements of Clause G3 of the NZBC, when fixed to the strict hygiene requirements of this installation manual.

4.4 STRUCTURAL BRACING

Because the sheets are adhesive-fixed they are not suitable for structural sheet bracing. When structural sheet bracing is required, mechanically fix a sheet of Villaboard® Lining to give the bracing rating required, then adhesive-fix the HardieGlaze Lining onto the face of the Villaboard Lining. Refer to the James Hardie Design Manual for further bracing information.

4.5 'GROUP NUMBER' CLASSIFICATION

Internal wall linings are required to be tested to establish their 'Group Numbers' in accordance with ISO 5660 or ISO 9773 specified in 'Protection from Fire' clause C of the NZBC. HardieGlaze Lining has been tested and has 'Group Number 1-S' classification. This is the best performance that can be expected of a prefinished wall lining.

5 Framing/ substrate

5.1 GENERAL REQUIREMENTS

HardieGlaze Lining can be fixed directly to both timber and steel frame construction, load bearing and non-load bearing. All framework for walls and ceilings must comply with this specification and applicable current New Zealand standards.

Studs must be spaced at a maximum of 600mm centres with continuous top and bottom plates and nogs at 1200mm maximum centres.

Sheet fixing tolerances are at a minimum when a steel frame is used, therefore setting out must be accurate.

5.2 TIMBER FRAME

Timber framing must be in accordance with NZS 3604 'Timber Framed Buildings'. Refer to NZS 3602 regarding treatment requirements and allowable moisture contents of timber. Specific design to NZS 3603 and AS/NZS 1170 can also be undertaken providing that:

- the framing centres do not exceed those given in this specification;
- the framing member widths conform to this specification.

HardieGlaze Lining must not be fixed to timber framing that exceeds the required specified moisture content as per NZS 3602. Timber framing is to be 45mm minimum width.

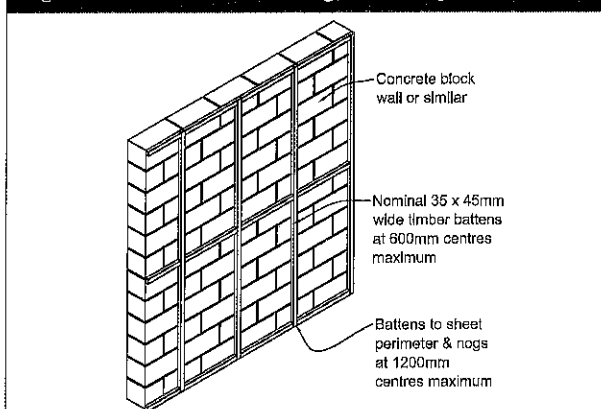
5.3 STEEL FRAME

The details in this brochure are drawn for timber framing. However, steel framing can also be used at the same framing centres as for timber frame.

Steel framing members of load-bearing construction must be fabricated from light-gauge sheet steel 0.55mm to 1.6mm thick.

Steel framing for non load-bearing construction must be a minimum of 0.55mm thick. The frames must be firmly secured together and must not rely on the sheeting for stability. The minimum flange width of 38mm is required to adequately adhere the sheets. Instructions by the proprietary framing manufacturer must be followed.

Figure 3: HardieGlaze Lining batten layout



Note: Steel battens 72mm wide x 23mm deep x 0.55mm thick, with a minimum bearing surface of 38mm and with minimum 275g/m² zinc coating, can also be used.

5.4 BATTEN REQUIREMENTS

Timber/steel battens are required when sheets are fixed over:

- polystyrene or similar substrates;
- concrete, masonry block or brick.

Allow concrete or block walls to dry out before battening and ensure that all exterior faces are adequately sealed.

5.4.1 BATTENING SPECIFICATION

Refer to Figure 3. Take care to ensure the battens are packed and aligned to give a true even surface for the sheets to be fixed. Check the face of the battens with a long straight-edge before fixing the sheets.

5.4.2 FIXING TO FIBRE CEMENT OR PLASTERBOARD

HardieGlaze Lining can either be fixed directly to the framing or fixed directly over James Hardie Villaboard Lining or plasterboard.

Appendix D

Winstones Gib ® GBTL 60 Fire Rated Wall Data Sheet



FIRE RATED WALL SYSTEMS

TWO WAY FRR - TIMBER FRAME

SPECIFICATION NUMBER	LOADBEARING CAPACITY	FIRE RESISTANCE RATING	LINING REQUIREMENTS	SOUND TRANSMISSION CLASS	SYSTEM WEIGHT APPROX
GBT 60a	NLB	-/60/60	1 layer 13mm GIB Fyrelite® each side	STC 36	27kg/m ²
GBTL 60	LB	60/60/60			

FRAMING

Framing to comply with,

- NZBC B1 – Structure: AS1 Clause 3 – Timber (NZS 3604) or VM1 Clause 6 – Timber (NZS 3603)
- NZBC B2 – Durability: AS1 Clause 3.2 – Timber (NZS 3602)
- Studs at 600mm centres maximum
- Nogs at 1200mm centres for Horizontal fixing

WALL HEIGHTS AND FRAMING DIMENSIONS

GBT60a Non Loadbearing – Framing dimensions and height as determined by NZS 3604 stud tables for non loadbearing partitions.

GBTL60 Loadbearing – Framing dimensions and height as determined by NZS 3604 stud and top plate tables for loadbearing walls.

LINING

1 layer of 13mm GIB Fyrelite® each side of the frame.

Vertical or Horizontal fixing permitted.

Sheets shall be touch fitted.

When fixing vertically, full height sheets shall be used where possible.

All sheet joints must be formed over solid timber framing.

FASTENING THE LINING

Fasteners

41mm x 6g GIB® Grabber® High Thread Drywall Screws or 40mm x 2.8mm GIB® Nails.

Fastener Centres

300mm centres around the sheet perimeter.

Place fasteners 12mm from bound sheet edges and 18mm from sheet ends.

Single screws or nails at 300mm centres to intermediate studs.

JOINTING

All fastener heads stopped and all sheet joints tape reinforced and stopped in accordance with the publication entitled "GIB® Site Guide".

In order for GIB® systems to perform as tested, all components must be installed exactly as prescribed. Substituting components produces an entirely different system and may seriously compromise performance. Follow system specifications.

