

Metro Building Consultancy

Studio 1.05/56 Bowman St  
Pymont NSW 2009  
P: 02 9692 8477  
F: 02 8209 4955  
admin@metrobc.com.au  
www.metrobc.com.au

Ref: 11190 Narrabeen Council OC letter

24 May 2012

Pittwater Council  
PO Box 882  
Mona Vale NSW 1660

Attention: One Stop Shop

**Building A, Narrabeen Sports High School, Namona Street, North Narrabeen NSW 2101**  
**Registration of an Occupation Certificate for the refurbishment of the existing woodworking workshops on the ground floor of building A and the construction of a new covered outdoor work area adjacent to building A**

With regard to the above project please see attached a copy of the Occupation Certificate as per Clause 151 (2) of the Environmental Planning and Assessment Regulation 2000, including:

- a copy of the determination,
- copies of any documents that were lodged with the application for the certificate,
- if an occupation certificate was issued, a copy of the certificate,
- a copy of all critical stage inspections and any other inspections carried out because they were required by the principal certifying authority under section 109E (3) (d) of the Environmental Planning and Assessment Act 1979 No 203,
- a copy of any inspection carried out under clause 162A (6) (c) of the Environmental Planning and Assessment Regulation 2000,
- a copy of any inspection carried out under clause 162A (7A) (b) of the Environmental Planning and Assessment Regulation 2000.

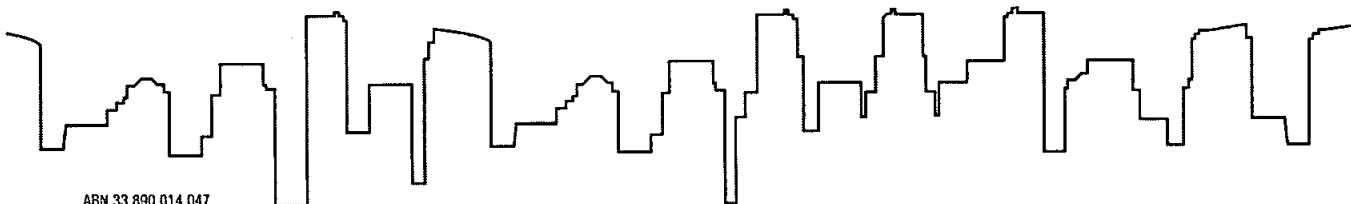
Please also see attached a cheque for \$30 which I believe to be the registration fee. Please send a receipt to the above address quoting this job number 11190.

If you have any question please do not hesitate to contact this office.

Regards

Sean Moore  
Metro Building Consultancy

\$30 REC: 322338 29/5/12



ABN 33 890 014 047

Commercial

## Occupation Certificate

Under Section 109C (1) (c) & 109H of the Environmental Planning and Assessment Act 1979

### Applicant's details

Title	Mr <input checked="" type="checkbox"/>	Ms <input type="checkbox"/>	Mrs <input type="checkbox"/>	Other <input type="checkbox"/>			
First Name	Mike		Surname	Stephenson	Position	Project Team Director	
Company / Organisation Name	Nordon Jago Architects Pty Ltd						
Address	PO Box 254 Annandale NSW 2038						
Phone No	02 95648808	Fax No	02 95172822	Mobile No		Email	mstephenson@nordojago.com

### Property details

Property address
<b>Building A</b>
<b>Narrabeen Sports High School</b>
<b>Namona Street</b>
<b>North Narrabeen NSW 2101</b>

### Detailed description of the development - Building Work

The project will be developed at Narrabeen Sports High School. The work will involve the construction of a building trade training centre which will incorporate:

- The refurbishment of existing woodworking workshops on the ground floor of building A, and
- The construction of a new covered outdoor work area adjacent to building A

Lot Number	Lot 2, 3 & 4
DP / SP Number	DP 1018621
Lot Number	Lot 11 & 12
DP / SP Number	DP 1119562

Existing BCA Classification **9b**

Proposed BCA Classification **9b**

### Type of Occupation Certificate

Type of Occupation Certificate applied for. Interim  Final   
If Interim, the extent of the area for the Interim Occupation Certificate or the extent of the area excluded from the Interim Occupation Certificate

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### Complying Development Certificate (CDC) details

CDC Number	11190NarabeenCDC02	Date of CDC	10/02/12
Name of the Certifying Authority	Sean Moore		

## Determination

Date of certificate	<b>24/05/12</b>	Determination of application	<b>Approved</b>
Certificate number	<b>11190NarrabeenOC01</b>	Building Professional Board accreditation number	<b>0764</b>

I confirm that:

- (i) the health and safety of the occupants of the building have been taken into consideration where an interim occupation certificate is being issued, and
- (ii) a current development consent or complying development certificate is in force for the building, and
- (iii) if any building work has been carried out, a current construction certificate (or complying development certificate) has been issued with respect to the plans and specifications for the building, and
- (iv) the building is suitable for occupation or use in accordance with its classification under the *Building Code of Australia*, and
- (v) a fire safety certificate has been issued for the building, and
- (vi) a report from the Fire Commissioner has been considered (if required).

Name of Accredited Certifier	<b>Sean Moore</b>	Signature of Accredited Certifier	
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## Attachments to the Occupation Certificate

No.	Item
1.	Copy of Occupation Certificate application from Nordon Jago Architects dated 24/05/12
2.	Copy of the Final Fire Safety Certificate from NSW Public Works dated 24/05/12
3.	Copy of Clause 162A EPAR Critical Stage Inspection report – Footings dated 13/02/12
4.	Copy of Clause 162A EPAR Critical Stage Inspection report – Pre Occupation Certificate dated 17/05/12
5.	Footings Structural Inspection Certificate from M.M. Farah Civil / Structural Pty Ltd dated 04/02/12
6.	Lintel Structural Installation Certificate from Macarthur Block & Bricklaying Services Pty Ltd dated 23/05/12
7.	Final Structural Inspection Certificate from ALMA Engineers Pty Ltd dated 14/04/12
8.	Structural Workshop Drawings 1205 1 A 21/02/12, 1205 2 A 21/02/12, 1205 3 A 21/02/12, 1205 4 A 21/02/12, 1205 5 A 21/02/12, 1205 G (1) A 21/02/12 and 1205 G (2) A 21/02/12 from Callan Wrought Iron & Steel Fab Pty Ltd dated 23/05/12
9.	Structural Workshop Drawings Design Certificate from Callan Wrought Iron & Steel Fab Pty Ltd dated 23/05/12
10.	Electrical Services Installation Certificate from David Power Pty Ltd dated 17/05/12
11.	Lighting Installation Certificate from David Power Pty Ltd dated 17/05/12
12.	Exit Signs & Emergency Lighting Installation Certificate from David Power Pty Ltd dated 17/05/12
13.	Exit Signs & Emergency Lighting Fire Safety Certificate from David Power Pty Ltd dated 17/05/12
14.	Certificate of Compliance – Electrical Work from David Power Pty Ltd dated 17/05/12
15.	Mechanical Services Installation Certificate from Beayer Air dated 15/05/12
16.	Hydraulic Services Installation Certificate from Grateholt Pty Ltd dated 16/05/12
17.	Portable Fire Extinguisher Installation Certificate from Chubb Fire & Security dated 16/05/12
18.	Glazing Installation Certificate from K+L Aluminium & Glass Pty Ltd dated 16/05/12
19.	Vinyl Flooring Test Data from CSIRO dated 15/09/09

Commercial

## Occupation Certificate Application Form

Under Section 109C (1) (c) & 109H of the Environmental Planning and Assessment Act 1979

**Applicant's details** (The applicant must be the property owner or the person having the benefit of the development consent. A building contractor however cannot be the applicant unless the contractor is the owner of the property.)

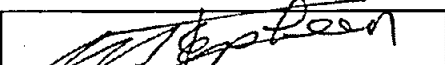
Title Mr  Ms  Mrs  Other  \_\_\_\_\_

First Name MIKE Surname STEPHENSON Position PROJECT TEAM LEADER

Company / Organisation Name NORDON JAGO ARCHITECTS PTY LTD

Address PO BOX 254 ANNANDALE NSW 2038

Phone No 0295648808 Fax No 0295172822 Mobile No \_\_\_\_\_ Email mstephen@nordonjago.com

Signature  Date 24/5/12

**Property details**

Property address

<b>Building A</b>
<b>Narrabeen Sports High School</b>
<b>Namona Street</b>
<b>North Narrabeen NSW 2101</b>

Detailed description of the development - Building Work

The project will be developed at Narrabeen Sports High School. The work will involve the construction of a building trade training centre which will incorporate:

- The refurbishment of existing woodworking workshops on the ground floor of building A, and
- The construction of a new covered outdoor work area adjacent to building A

Lot Number	<b>Lot 2, 3 &amp; 4</b>
DP / SP Number	<b>DP 1018621</b>
Lot Number	<b>Lot 11 &amp; 12</b>
DP / SP Number	<b>DP 1119562</b>

Existing BCA Classification 9b

Proposed BCA Classification 9b

**Type of Occupation Certificate**

Type of Occupation Certificate applied for, select one. Interim  Final

If Interim, specify the extent of the area for the Interim Occupation Certificate or specify the extent of the area excluded from the Interim Occupation Certificate

\_\_\_\_\_

Checklist of information required to accompany the application	Included? Y/N
A copy of the relevant complying development certificate	Y
A copy of the completed Final Fire Safety Certificate	Y

Office Use	Date of receipt		Received by:	
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## Interim / Final Fire Safety Certificate

Under Section 170, 171, 172, 173 and 174 of the Environmental Planning and Assessment Regulations 2000

**Type of certificate being issued**

Interim Fire Safety Certificate   
 Final Fire Safety Certificate

**Details of the building**

Address **Building A, Narrabeen Sports High School, Namona Street, North Narrabeen NSW 2101**

Description of the building or part **The project will be developed at Narrabeen Sports High School. The work will involve the construction of a building trade training centre which will incorporate the refurbishment of existing woodworking workshops on the ground floor of building A and the construction of a new covered outdoor work area adjacent to building A.**

**Owner's details**

First Name **Popy** Surname **Mourgelas** Position **Manager, Capital Program Delivery**

Company / Organisation Name **Dept. Of Education & Communities**

Address **L4, 35 Bridge Street, Sydney NSW 2000**

**Owner's agent / builder's details**

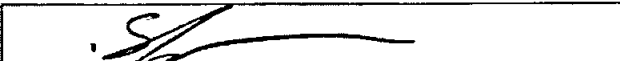
First Name **Steve** Surname **Jakovic** Position **Supervisor**

Company / Organisation Name **NSW Public Works**

Address **2 Burbank pl Baulkham Hills** Phone **9852 0285**

I confirm that each essential fire safety measure specified in this certificate:

- (a) has been assessed by a properly qualified person, and
- (b) was found, when it was assessed, to be capable of performing to at least the standard required by the current fire safety schedule for the building for which the certificate is issued, and
- (c) the information contained in this statement is, to the best of my knowledge and belief, true and accurate.

Signature  Date **24/5/2012**

**Fire Safety Schedule**

No	Fire Safety Measure	Standard of Performance	Existing Yes / No	Proposed Yes / No
1.	Emergency lighting	AS 2293.1 2005	N	Y
2.	Exit signs	AS 2293.1 2005	N	Y
3.	Fire hydrant systems	AS 2419.1 1988	Y	N
4.	Portable fire extinguishers	AS 2444 2001	Y	Y
5.	Other			

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(Commercial - Class 5, 6, 7, 8 or 9 building)

## Record of Critical Stage Inspection

Under Section 162A and 162B of the Environmental Planning and Assessment Regulations 2000

The registered number of the development application and of the construction certificate or complying development certificate.

**Complying Development Certificate  
11190NarabeenCDC02**

The address of the property at which the inspection was carried out.

**Building A, Narrabeen Sports High School,  
Namona Street, North Narrabeen NSW 2101**

### Type of Critical Stage Inspection

Prior to covering any stormwater drainage connections.

No

After the building work has been completed and prior to any occupation certificate being issued in relation to the building.

No

In the case of a swimming pool, as soon as practicable after the barrier (if one is required under the Swimming Pools Act 1992) has been erected.

No

After the commencement of the excavation for, and before the placement of, the first footing.

Yes

The date on which the inspection was carried out.

13/02/12

The identity of the certifying authority by whom the inspection was carried out.

Sean Moore

If the certifying authority by whom the inspection was carried out is an accredited certifier, the accreditation number of the certifying authority.

Building Professionals Board accreditation  
number 0764

Whether or not the inspection was satisfactory in the opinion of the certifying authority who carried it out.

The inspection was satisfactory.

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(Commercial - Class 5, 6, 7, 8 or 9 building)

## Record of Critical Stage Inspection

Under Section 162A and 162B of the Environmental Planning and Assessment Regulations 2000

The registered number of the development application and of the construction certificate or complying development certificate.

Complying Development Certificate  
11190NarabeenCDC02

The address of the property at which the inspection was carried out.

Building A, Narrabeen Sports High School,  
Namona Street, North Narrabeen NSW 2101

### Type of Critical Stage Inspection

Prior to covering any stormwater drainage connections.

After the building work has been completed and prior to any occupation certificate being issued in relation to the building.

In the case of a swimming pool, as soon as practicable after the barrier (if one is required under the Swimming Pools Act 1992) has been erected.

After the commencement of the excavation for, and before the placement of, the first footing.

No

Yes

No

No

The date on which the inspection was carried out.

17/05/12

The identity of the certifying authority by whom the inspection was carried out.

Sean Moore

If the certifying authority by whom the inspection was carried out is an accredited certifier, the accreditation number of the certifying authority.

Building Professionals Board accreditation  
number 0764

Whether or not the inspection was satisfactory in the opinion of the certifying authority who carried it out.

The inspection was satisfactory.

4/02/2012

**M.M.Farah**  
**Civil/Structural Pty/Ltd**  
**129 Hampden Rd**  
**Wentworthville**  
**N.S.W. 2145**  
**04117 80327**

Ref : New development.  
At : Narrabeen Sports High School.  
Item : Raft slab to new TTC COWA.

**STRUCTURAL CERTIFICATE**

This is to certify that an inspection was carried out at the above site to the reinforcements of the raft slab..

The size of the slab, beams and the thickness of the laid steel reinforcements were in accordance with the engineer's design and approval was given for the pouring of concrete.

Signed

M.M. Farah





DARKMIND PTY LTD  
Trading as

# MACARTHUR BLOCK & BRICKLAYING SERVICES.

A.B.N. 86 100 461 541  
A.C.N. 100 461 541

P O Box 370  
NARELLAN. NSW 2567

Ph: (02) 4647 5227  
Fax: (02) 4647 5013

## “CERTIFICATE OF COMPLIANCE”

NSW Public Works  
Level 5  
2 Burbank Place  
Baulkham Hills NSW 2153

Attention: Steve Jakovich

23<sup>rd</sup> May, 2012

Dear Steve,

Re: Project – Narrabeen Sports High School  
Namona Street, North Narrabeen 2101

Our Company, Macarthur Block & Bricklaying Services, hereby certifies that all the following:-

1) Lintels

Refurbishment to existing workshop in the project store. The lintels for the above project have been completed in accordance with;

- a) The Architectural & Structural Drawings
- b) The Specification & Australian Standards (Specification A1.3)
- c) The Manufacturers Recommendations
- d) The Building Code of Australia. (Part 1.4)

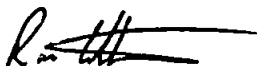
We trust that the above information meets with your approval.

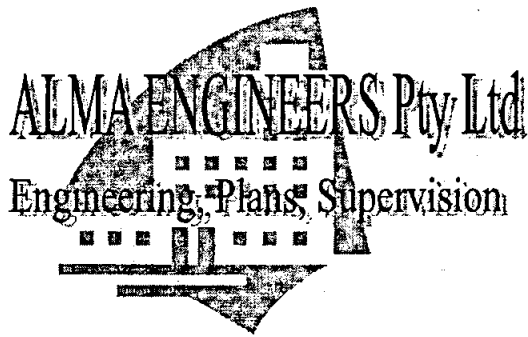
Certifier: Renfred Waters

**Qualifications & Experience:** Contractors Licence No 189856C / 35 Years in the Building Industry

Address: 5 Bellingham Rd Narellan NSW 2570

Signature:





Suite12, 209 Macquarie Street  
Liverpool NSW 2170  
Ph : (02) 9601 0799, Mob: 0414 928 488  
Fax: (02) 9601 0799

DATE: April 14, 2012

**Job Address: Narrabeen Sports High School**  
**Narrabeen NSW**

**To Whom It May Concern**

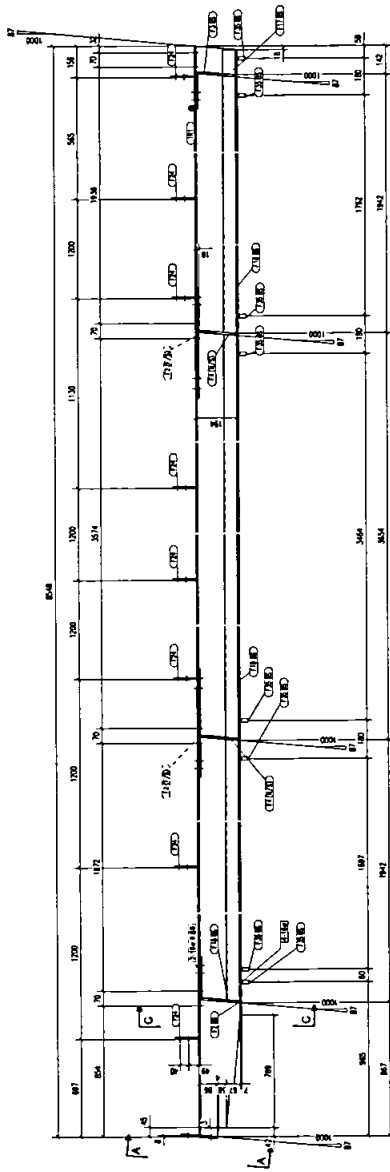
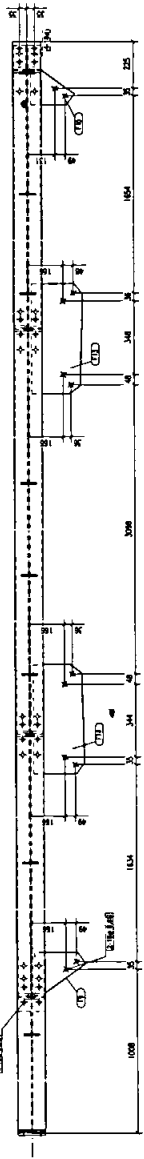
Dear Sir/Madam

Following to your request, a final inspection on the above mentioned premises was carried out on 14<sup>th</sup> April 2012.

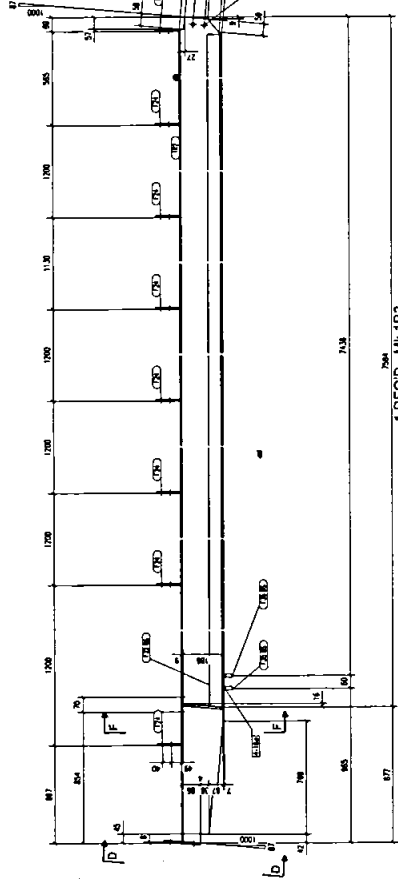
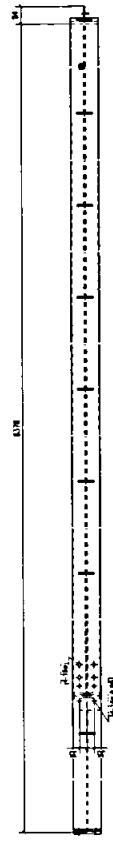
The inspection revealed that all steel works have been conducted in accordance with structural plans No 1205 (1,2,3,4,5,G(1), G(2), ) dated 21<sup>st</sup> February 2012, and prepared by Gordan Jago Architects Pty Ltd.

If you have further query, please do not hesitate to contact us.

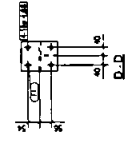
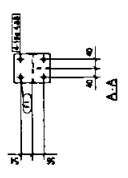
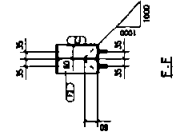
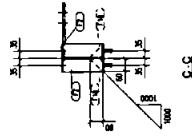
Yours faithfully  
Akram Jawabreh  
MIE Aust. CPEng.NPER.Civil and Structural 17283  
Accredited Certifier No 1440



1 REQD - Mk 1R1



1 REQD - Mk 1R2



ITEM	NO OF	MATERIAL LIST	LENGTH	GRADE	FINISH
1R1	1	UN00072	854	300PLUS	
F1	1	FL0P130	175	255	
F2	4	FL07985	148	255	
F3	2	FL07985	148	255	
F4	2	FL07985	177	255	
F5	1	FL07985	277	255	
F6	1	FL07985	24	255	
F7	1	FL07985	819	255	
F8	2	FL07985	515	255	
F9	2	FL07985	175	255	
F10	2	FL07985	308	255	
F11	2	FL07985	113	255	
F12	2	FL07985	48	255	
F13	18	MILBOLT	48	4.85	
1R2	1	UN00072	841	300PLUS	
F1	1	FL0P130	175	255	
F2	4	FL07985	148	255	
F3	2	FL07985	148	255	
F4	2	FL07985	177	255	
F5	1	FL07985	277	255	
F6	1	FL07985	24	255	
F7	1	FL07985	819	255	
F8	2	FL07985	515	255	
F9	2	FL07985	175	255	
F10	2	FL07985	308	255	
F11	2	FL07985	113	255	
F12	2	FL07985	48	255	
F13	18	MILBOLT	48	4.85	

1R1 = 258.5 KG  
1R2 = 234.5 KG  
Total Weight For Drawing = 493.0 KG

**CULLAN RAOUGHT IRON P/L**  
**LUDODESIGN**  
 DRAWING NO: 1R1/1R2  
 PROJECT NO: 1R1/1R2  
 DATE: 1/1/00  
 DRAWN BY: [Name]  
 CHECKED BY: [Name]  
 APPROVED BY: [Name]  
 TITLE: [Title]  
 SCALE: 1:1  
 SHEET NO: 1  
 TOTAL SHEETS: 1

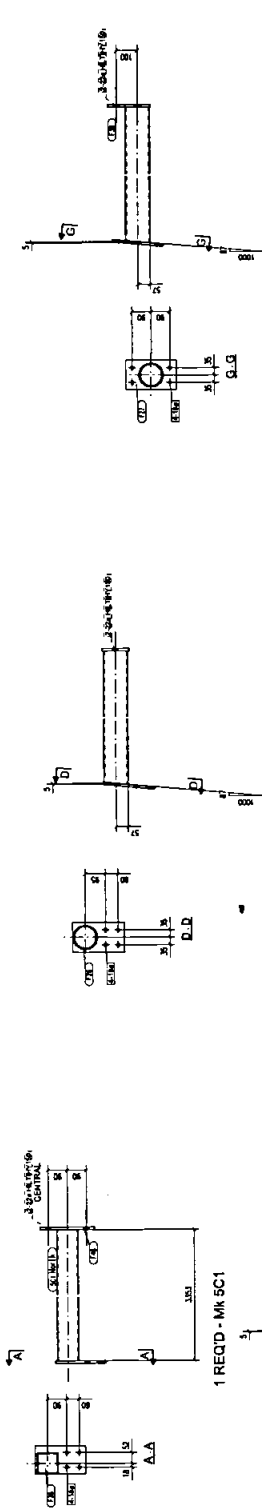
**ISSUED FOR APPROVAL**

REV	DATE	DESCRIPTION
A	21/2/01	ISSUED FOR APPROVAL

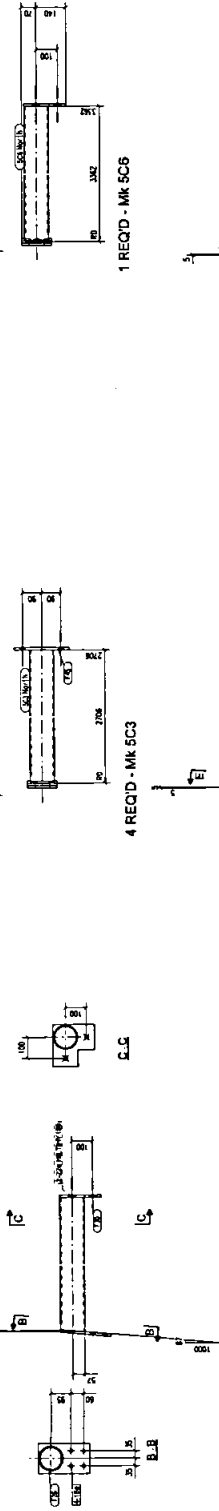




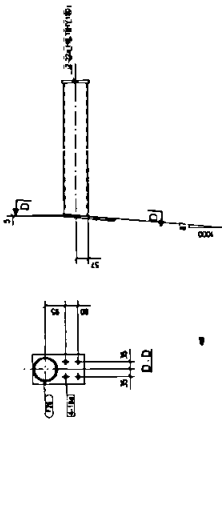




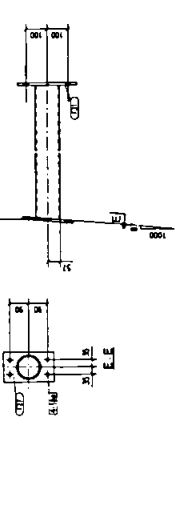
1 REQD - MK SC1



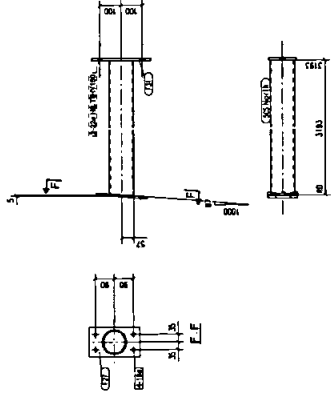
1 REQD - MK SC2



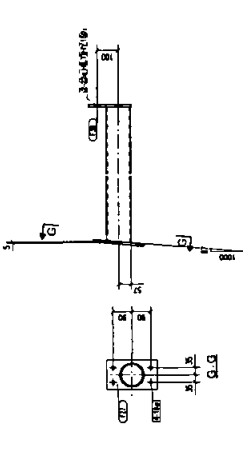
4 REQD - MK SC3



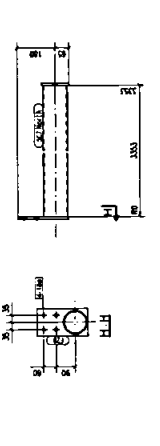
1 REQD - MK SC4



1 REQD - MK SC5



1 REQD - MK SC6



1 REQD - MK SC7

REMARKS:

1. TO BE USED IN CONJUNCTION WITH THE DRAWING.
2. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
3. DIMENSIONS ARE TO BE TAKEN TO THE UNFINISHED SURFACE UNLESS OTHERWISE SPECIFIED.
4. SURFACE FINISH IS TO BE AS SPECIFIED IN THE DRAWING.
5. ALL DIMENSIONS ARE TO BE TAKEN TO THE UNFINISHED SURFACE UNLESS OTHERWISE SPECIFIED.
6. SURFACE FINISH IS TO BE AS SPECIFIED IN THE DRAWING.

ITEM	QTY	MATERIAL	SECTION	LENGTH	GRADE	FINISH
SC1	1	MS10070779		303	300	
F59	1	FL1710		240	200	
F48	1	FL1710		240	200	
SC2	1	CH114374		278	300	
F28	1	FL1710		240	200	
F30	1	FL1710		200	200	
SC3	4	CH114374		278	300	
F28	4	FL1710		240	200	
F42	4	FL1710		240	200	
SC4	1	CH114374		278	300	
F27	1	FL1710		240	200	
F21	1	FL1710		240	200	
SC5	1	CH114374		278	300	
F28	1	FL1710		240	200	
F31	1	FL1710		240	200	
SC6	1	CH114374		278	300	
F27	1	FL1710		240	200	
F30	1	FL1710		200	200	
SC7	1	CH114374		278	300	
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F62	1	FL1710		240	200	
F63	1	FL1710		240	200	
F64	1	FL1710		240	200	
F65	1	FL1710		240	200	
F66	1	FL1710		240	200	
F67	1	FL1710		240	200	
F68	1	FL1710		240	200	
F69	1	FL1710		240	200	
F70	1	FL1710		240	200	
F71	1	FL1710		240	200	
F72	1	FL1710		240	200	
F73	1	FL1710		240	200	
F74	1	FL1710		240	200	
F75	1	FL1710		240	200	
F76	1	FL1710		240	200	
F77	1	FL1710		240	200	
F78	1	FL1710		240	200	
F79	1	FL1710		240	200	
F80	1	FL1710		240	200	
F81	1	FL1710		240	200	
F82	1	FL1710		240	200	
F83	1	FL1710		240	200	
F84	1	FL1710		240	200	
F85	1	FL1710		240	200	
F86	1	FL1710		240	200	
F87	1	FL1710		240	200	
F88	1	FL1710		240	200	
F89	1	FL1710		240	200	
F90	1	FL1710		240	200	
F91	1	FL1710		240	200	
F92	1	FL1710		240	200	
F93	1	FL1710		240	200	
F94	1	FL1710		240	200	
F95	1	FL1710		240	200	
F96	1	FL1710		240	200	
F97	1	FL1710		240	200	
F98	1	FL1710		240	200	
F99	1	FL1710		240	200	
F100	1	FL1710		240	200	

**CULLAN RADUGHT IRON P/L**  
**DESIGN**  
 DRAWING NO. 12003  
 PROJECT NO. 12003  
 DATE 12/03  
 DRAWN BY  
 CHECKED BY  
 APPROVED BY  
 TOTAL WEIGHT FOR DRAWING 403.5 Kg

**ISSUED FOR APPROVAL**  
 REV. DATE DESCRIPTION  
 A 21.2.2001 ISSUED FOR APPROVAL  
 B 12/03 MODIFIED BY 12003  
 C 12/03 MODIFIED BY 12003  
 D 12/03 MODIFIED BY 12003  
 E 12/03 MODIFIED BY 12003  
 F 12/03 MODIFIED BY 12003  
 G 12/03 MODIFIED BY 12003  
 H 12/03 MODIFIED BY 12003  
 I 12/03 MODIFIED BY 12003  
 J 12/03 MODIFIED BY 12003  
 K 12/03 MODIFIED BY 12003  
 L 12/03 MODIFIED BY 12003  
 M 12/03 MODIFIED BY 12003  
 N 12/03 MODIFIED BY 12003  
 O 12/03 MODIFIED BY 12003  
 P 12/03 MODIFIED BY 12003  
 Q 12/03 MODIFIED BY 12003  
 R 12/03 MODIFIED BY 12003  
 S 12/03 MODIFIED BY 12003  
 T 12/03 MODIFIED BY 12003  
 U 12/03 MODIFIED BY 12003  
 V 12/03 MODIFIED BY 12003  
 W 12/03 MODIFIED BY 12003  
 X 12/03 MODIFIED BY 12003  
 Y 12/03 MODIFIED BY 12003  
 Z 12/03 MODIFIED BY 12003







**INSTALLATION CERTIFICATE**

Under Clause A2.2 of the Building Code of Australia Volume 1

**Project Details**

Project name: Trade Training Centre

Project address: Narrabeen Sports High School  
 Namona Street, North Narrabeen NSW 2101

Whole or part of the building to which the certificate relates?: Refurbishment of Block A and a new covered outdoor working area

Description of the work: Refurbishment of existing Trade Training Centre

**Installer's Details**

Company Name: Callan Wrought Iron & Steel Fab P/L

Company Address: 36 Halifax St Raby NSW

Phone No.: 97551939

Installer's name: [Blank]

Qualifications / accreditations: Riggers

**Drawings**

Drawing & Rev. No.: S0.00, S2.00, S2.01, S3.00 REV 3  
 1205 (1,2,3,4,5 & (1) G/L)

CR

**Installation Statement**

I confirm that the works carried out to the above premises have been completed in accordance with the relevant clauses of the Building Code of Australia, the relevant Australian Standards and any other relevant requirements of the Development Consent or Alternative Solution including those listed below.

Signature: [Signature: Chobi] Date: 23/5/12

**STRUCTURAL DESIGN**

**Australian Standard & Building Code Of Australia Clause**

No.	Date	Title	BCA 2011 Clause
AS/NZS 1170.0	2002	Structural design actions – General principles	B1.2
AS/NZS 1170.1	2002	Structural design actions - Permanent, imposed and other actions	B1.2
AS/NZS 1170.2	2002	Structural design actions – Wind actions	B1.2
AS 1170.4	2007	Structural design actions – Earthquake actions in Australia	B1.2
AS 1288	2006	Glass in buildings – Selection and Installation N/A	B1.4
AS 1562.1	1992	Design and installation of sheet roof and wall cladding - Metal N/A	B1.4
AS/NZS 1664.1	1997	Aluminium structures – Limit state design N/A	B1.4
AS/NZS 1664.2	1997	Aluminium structures – Allowable stress design N/A	B1.4
AS 2047	1999	Windows in buildings – Selection and installation N/A	B1.4
AS 2327.1	2003	Composite structures – Simply supported beams	B1.4
AS 3600	2001	Concrete structures N/A	B1.4
AS 3660.1	2000	Termite management – New building work N/A	B1.4
AS 3700	2001	Masonry structures N/A	B1.4
AS 4100	1998	Steel structures	B1.4
AS/NZS 4600	2005	Cold-formed steel structures	B1.4

### INSTALLATION CERTIFICATE

Under Clause A2.2 of the Building Code of Australia Volume 1

#### Project Details

Project name	Trade Training Centre
Project address	Narrabeen Sports High School Namona Street, North Narrabeen NSW 2101
Whole or part of the building to which the certificate relates?	Refurbishment of Block A and a new covered outdoor working area
Description of the work	Refurbishment of existing Trade Training Centre

#### Installer's Details

Company Name	DAVID POWER PTY LTD
Company Address	37 BAXTER ROAD, MASCOF NSW 2020
Phone No.	8337 2200
Installer's name	ABBAS SMILEY
Qualifications / accreditations	ELECTRICAL CONTRACTOR - 186142C

#### Drawings

Drawing & Rev. No.	E01-B, E02-B, E03-B, E04-B, E05-B ELECTRICAL SPECIFICATION REVISION A.
--------------------	---

#### Installation Statement

I confirm that the works carried out to the above premises have been completed in accordance with the relevant clauses of the Building Code of Australia, the relevant Australian Standards and any other relevant requirements of the Development Consent or Alternative Solution including those listed below.

Signature  Date 17/5/2012

#### ELECTRICAL WORKS

Australian Standard & Building Code Of Australia Clause

No.	Date	Title	BCA 2011 Clause
AS/NZS 3000	2007	Electrical Installation 'Wiring Rules'	

### INSTALLATION CERTIFICATE

Under Clause A2.2 of the Building Code of Australia Volume 1

#### Project Details

Project name: Trade Training Centre

Project address: Narrabeen Sports High School  
 Namona Street, North Narrabeen NSW 2101

Whole or part of the building to which the certificate relates? Refurbishment of Block A and a new covered outdoor working area

Description of the work: Refurbishment of existing Trade Training Centre

#### Installer's Details

Company Name: DAVID POWER PTY LTD

Company Address: 37 BAXTER ROAD, MASCOT NSW 2020

Phone No: 8337 2200

Installer's name: ABBAS SMILEY

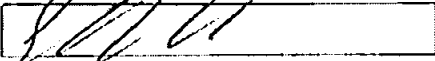
Qualifications / accreditations: ELECTRICAL CONTRACTOR - 186742C

Drawings

Drawing & Rev. No.: E01-B, E02-B, E03-B, E04-B, E05-B  
 ELECTRICAL SPECIFICATION A

#### Installation Statement

I confirm that the works carried out to the above premises have been completed in accordance with the relevant clauses of the Building Code of Australia, the relevant Australian Standards and any other relevant requirements of the Development Consent or Alternative Solution including those listed below.

Signature:  Date: 17/5/2012

#### LIGHTING

##### Australian Standard & Building Code Of Australia Clause

No.	Date	Title	BCA 2011 Clause
AS/NZS 3000	2007	Electrical Installation 'Wiring Rules'	-
AS/NZS 1680.0	1998	Interior Lighting - Safe Movement	F4.4

##### Building Code of Australia 2011 requirement

BCA Clause	Title	Requirement
J6.2	Interior artificial lighting	All new lighting is to comply with the BCA's energy efficiency requirements
J6.3	Interior artificial lighting and power control	All new lighting is to comply with the BCA's energy efficiency requirements
J6.4	Interior decorative and display lighting	All new lighting is to comply with the BCA's energy efficiency requirements
J6.5	Artificial lighting around the perimeter of a building	All new lighting is to comply with the BCA's energy efficiency requirements

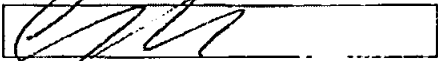
**INSTALLATION CERTIFICATE**  
 Under Clause A2.2 of the Building Code of Australia Volume 1

**Project Details**

Project name	Trade Training Centre
Project address	Narrabeen Sports High School Namona Street, North Narrabeen NSW 2101
Whole or part of the building to which the certificate relates?	Refurbishment of Block A and a new covered outdoor working area
Description of the work	Refurbishment of existing Trade Training Centre
<b>Installer's Details</b>	
Company Name	DAVID POWER PTY LTD
Company Address	37 BAXTER ROAD, MASLOT NSW 2020
Phone No.	8337 2200
Installer's name	ABBAS SMILEY
Qualifications / accreditations	ELECTRICAL CONTRACTOR - 186742c
<b>Drawings</b>	
Drawing & Rev. No.	E01-B, E02-B, E03-B, E04-B, E05-B ELECTRICAL SPECIFICATION A

**Installation Statement**

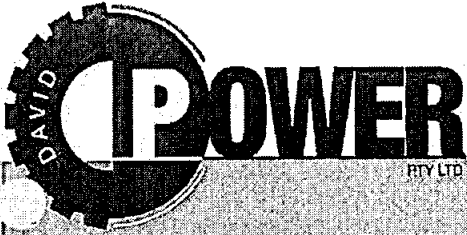
I confirm that the works carried out to the above premises have been completed in accordance with the relevant clauses of the Building Code of Australia, the relevant Australian Standards and any other relevant requirements of the Development Consent or Alternative Solution including those listed below.

Signature  Date 17/5/2012

**EXIT SIGNS AND EMERGENCY LIGHTING WORKS**

**Australian Standard & Building Code Of Australia Clause**

No.	Date	Title	BCA 2011 Clause
AS 2293 1	2005	Emergency escape lighting and exit signs for buildings System design, installation and operation	E4.4 E4.8



# FIRE SAFETY CERTIFICATE

## Exit & Emergency Lighting System

Issued Under the Environmental Planning and Assessment Regulation 2000.

Type:

Interim  Final

I, Grant Day

from David Power Pty Ltd

37 Baxter Rd Mascot, NSW 2020

Certify that:

The information contained in this certificate is to the best of my knowledge and belief, true and accurate at the time of inspection.

Identification of Building:

Name: Narrabeen Sports High School

Street/ Number: Namona Street

Suburb: North Narrabeen NSW

Particulars of Building:

Whole/Part (description): Construction Trade Training Centre

Owner's details:

Department of Education & Training

Date of assessment:

17<sup>th</sup> May 2012

Exit Signs:

✓

Standard of Performance;  
BCA Clause E4.5, E4.6, & E4.8 &  
AS/NZS2293.1-2005

Emergency Lighting:

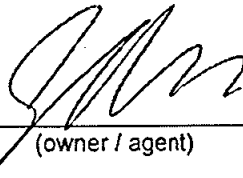
✓

BCA Clause E4.4 & AS/NZS 2293.1- 2005

Date of Certificate:

17<sup>th</sup> May 2012

Signature

  
\_\_\_\_\_  
(owner / agent)

# CERTIFICATE OF COMPLIANCE – ELECTRICAL WORK

Customer COPY

CERTIFICATE NO: 416603

**CUSTOMER DETAILS**

Name	NARRABEEN SPORTS HIGH SCHOOL		Telephone Contact	
Address	NAMONA STREET, NSW		Meter No:	
Cross Street		Postcode	NMI (if applicable)	

**INSTALLATION WORK DETAILS** Indicate the type of installation and types of work performed under this Notice

Type of Installation	<input type="checkbox"/> Residential	<input checked="" type="checkbox"/> Commercial	<input type="checkbox"/> Industrial	<input type="checkbox"/> Rural	<input type="checkbox"/> Other
Special Conditions	<input checked="" type="checkbox"/> over 100 amps	<input type="checkbox"/> High Voltage	<input type="checkbox"/> Hazardous Area	<input type="checkbox"/> Generator	<input type="checkbox"/> Unmetered Supply

**CERTIFICATE MUST BE ISSUED TO THE CUSTOMER FOR ALL ELECTRICAL WORK**

Work of the following type must ALSO be notified to the ELECTRICITY DISTRIBUTOR (DNSP)

<input checked="" type="checkbox"/> New Installation	<input type="checkbox"/> Network connection or metering
<input checked="" type="checkbox"/> Additions or alterations to a switchboard or associated equipment	<input type="checkbox"/> Defect Rectification No:

**DETAILS OF EQUIPMENT** Describe the equipment and estimate load increase of the work affected by this Notice. If insufficient space attach separate sheets.

EQUIPMENT	RATING	No.	PARTICULARS OF WORK
<input type="checkbox"/> Switchboards			ELECTRICAL SERVICES AS PER ELECTRICAL DESIGN.  SEE ATTACHED
<input type="checkbox"/> Circuits			
<input type="checkbox"/> Lighting			
<input type="checkbox"/> Socket-outlets			
<input type="checkbox"/> Appliances			
Estimated increase in load A/ph			<input type="checkbox"/> Increased load is within capacity of installation/service mains
<input checked="" type="checkbox"/> Work is connected to supply			<input type="checkbox"/> Work is not connected to supply pending inspection by DNSP

The work has been carried out or supervised by: DAVID POWER Pty LTD Licence No: 4533C

**TEST REPORT** Indicate the relevant tests and checks that have been performed on the work. If test records are provided attach as separate sheets.

<input checked="" type="checkbox"/> Earthing system integrity Ω	<input checked="" type="checkbox"/> Residual current device operation
<input checked="" type="checkbox"/> Insulation resistance MΩ	<input checked="" type="checkbox"/> Visual check that installation is suitable for connection to supply
<input checked="" type="checkbox"/> Polarity	<input type="checkbox"/> Stand-alone power system complies with AS 4509
<input checked="" type="checkbox"/> Correct circuit connections	<input type="checkbox"/> Fault loop impedance (if necessary)

I confirm that I have carried out the above tests and visually checked that the installation work described in this Certificate complies with AS/NZS 3000 and is suitable for its intended use.

Name: GRAFT DAY Licence No: 456995  
 Signature: [Signature] Date of Testing: 17/5/12

**CERTIFICATION**  
 I, the Electrical Contractor give notice to the Customer and AUSGRID (Name of DNSP or OFT), that the work described in this Certificate has been completed in accordance with the Electricity (Consumer Safety) Regulation 2006

Name: DAVID POWER Pty LTD Licence No: 4533C  
 Signature: [Signature] Date of Notice: 17/5/12  
 Address: 37 BAXTER ROAD, MASLOT Telephone No. or Other Contact: 0337 2200

**ELECTRICITY DISTRIBUTOR (DNSP) REMARKS**

Inspected by: \_\_\_\_\_ Date: \_\_\_\_\_

Comments: \_\_\_\_\_



**INSTALLATION CERTIFICATE**  
 Under Clause A2.2 of the Building Code of Australia Volume 1

**Project Details**

Project name: Trade Training Centre

Project address: Narrabeen Sports High School  
 Namona Street, North Narrabeen NSW 2101

Whole or part of the building to which the certificate relates? Refurbishment of Block A and a new covered outdoor working area

Description of the work: Refurbishment of existing Trade Training Centre

**Installer's Details**

Company Name: BEAVER AIR

Company Address: UNIT 2, 8 APOLLO ST WARRAWOOD

Phone No: 02 9997 4544

Installer's name: Bill Benton

Qualifications / accreditations: 1st CLASS SHEET METAL WORKER

Drawings

Drawing & Rev. No.: S113-M01-B  
 S113-M02-B

**Installation Statement**

I confirm that the works carried out to the above premises have been completed in accordance with the relevant clauses of the Building Code of Australia, the relevant Australian Standards and any other relevant requirements of the Development Consent or Alternative Solution including those listed below.

Signature

*[Signature]*

Date

15/5/2012

**MECHANICAL WORKS**

**Australian Standard & Building Code Of Australia Clause**

No.	Date	Title	BCA 2011 Clause
AS 1668.2	1991	The use of mechanical ventilation and air conditioning in building. Mechanical ventilation for acceptable indoor-air quality	F4.5, F4.11, F4.12
AS/NZS 3688.1	2002	Air handling and water systems of buildings – Microbial control – Design, installation and commissioning	F4.5
AS/NZS 3688.2	2002	Air handling and water systems of buildings – Microbial control – Operation and maintenance	11.2
AS 4254	1995	Ductwork for air handling systems in building Amdt 1 & Amdt 2	Spec C1.10

**Building Code of Australia 2011 requirement**

BCA Clause	Title	Requirement
J5.2	Air-conditioning and ventilation systems	All new mechanical work is to comply with the BCA's energy efficiency requirements
J5.3	Time switch	All new mechanical work is to comply with the BCA's energy efficiency requirements
J5.4	Heating and chilling systems	All new mechanical work is to comply with the BCA's energy efficiency requirements
J5.5	Miscellaneous exhaust systems	All new mechanical work is to comply with the BCA's energy efficiency requirements



# GRATEHOLT PTY. LTD.



A.C.N. 002 744 283  
 PLUMBING LIC. No. L64  
 CONTRACTORS AUTH. No. A1990  
 EMAIL: grateholt@grateholt.com.au

P.O. BOX 64, EASTWOOD 2122  
 23 MARY PARADE  
 RYDALMERE 2116  
 TELEPHONE (02) 9638 2399  
 FAX (02) 9638 0752

## INSTALLATION / INSPECTION CERTIFICATE – Miscellaneous Work / Services

<b>Site Details: Narrabeen Sports High School</b>			
Level/Unit no./ Flat no.		Street no. / Street name:	Namona St
Suburb:	North Narrabeen	State:	NSW Postcode: 2101
Description of Work:	Refurbishment of existing Trade Training Centre		

Certification: Final  Interim

Item No.	Tick box for items to be certified (✓)	Proposed Items of Work or Services installed, implemented and/or constructed in the building/development	Enter the intended design standard of performance (eg: BCA E2.2; AS1668.1, or DA Consent Condition No., etc) (Refer to relevant version of Australian Standards and Other standards of performance in the applicable BCA version for this project.)
1.	✓	Hydraulic Services	AS3500 - 2005 and " Project Specific Specifications"
2.	✓	Gas Service	AG601 – 2010 "Gas Installation Code" and " Project Specific Specifications"
3.	✓	Stormwater Drainage	AS3500 - 2005, and " Project Specific Specifications" & BCA Clause F1.1

I, the undersigned, certify that:

- The above work / services have been installed / implemented / constructed / in the above building or development in accordance with:
  - tested prototypes /systems for application complying with relevant BCA requirements and manufacturers' specifications (where appropriate),
  - design documentations as certified in the Design Certificate issued for the above items,
- These work/services have been inspected, assessed and tested (where appropriate) to perform in accordance with:
  - the design criteria and certified drawings as specified in the Design Certificate issued by the relevant Design Consultant for the above items, and/or
  - the provisions of the Building Code of Australia, the relevant Australian Standards and other standard of performance as indicated above.

I also certify that I am an appropriately qualified and competent person practising in the relevant area of work. I have recognised relevant experience in the area of work being certified. I am holding appropriate current insurance policy to the satisfaction of the building owner or the principal authorising the installation work being certified.

The following details must be provided in full:

Name:	Craig Jack	Qualification:	Lic Plumber L7741
Company Name:	Grateholt Pty Ltd	ABN No:	59 002 744 283
Company Address:	PO Box 64 Eastwood NSW 2122	Tel:	02 9638 2399
Signature:		Position Title:	General Manager
		Date:	16/05/2012.

# Metro Building Consultancy

Studio 1.05/56 Bowman St, Pyrmont NSW 2009  
P: 02 9692 8477 F: 02 8209 4955 E: enquiries@metrobc.com.au  
www.metrobc.com.au



## INSTALLATION CERTIFICATE

Under Clause A2.2 of the Building Code of Australia Volume 1

### Project Details

Project name	Trade Training Centre
Project address	Narrabeen Sports High School Namona Street, North Narrabeen NSW 2101
Whole or part of the building to which the certificate relates?	Refurbishment of Block A and a new covered outdoor working area
Description of the work	Refurbishment of existing Trade Training Centre
<b>Installer's Details</b>	
Company Name	CHUBB FIRE + SECURITY.
Company Address	120 SILVERWATER RD, SILVERWATER
Phone No.	8748 7000
Installer's name	DAVID BARRETT
Qualifications / accreditations	ADVANCE CERT. FIRE TECH. 15YRS EXP.
<b>Drawings</b>	
Drawing & Rev. No.	N/A

### Installation Statement

I confirm that the works carried out to the above premises have been completed in accordance with the relevant clauses of the Building Code of Australia, the relevant Australian Standards and any other relevant requirements of the Development Consent or Alternative Solution including those listed below.

Signature

Date

16/5/12

### PORTABLE FIRE EXTINGUISHERS

#### Australian Standard & Building Code Of Australia Clause

No.	Date	Title	BCA 2011 Clause
AS 2444	2001	Portable fire extinguishers and fire blankets – Selection and location	E1.6

**INSTALLATION CERTIFICATE**  
 Under Clause A2.2 of the Building Code of Australia Volume 1

**Project Details**

Project name: Trade Training Centre

Project address: Narrabeen Sports High School  
 Namona Street, North Narrabeen NSW 2101

Whole or part of the building to which the certificate relates? Refurbishment of Block A and a new covered outdoor working area

Description of the work: Refurbishment of existing Trade Training Centre

Installer's Details

Company Name: K&L ALUMINIUM + GLASS PTY LTD

Company Address: Unit 11 15/17 GARTMORE AVE BANKSTOWN 2200

Phone No: 99073550

Installer's name: P. LEWIS + M. YERAIN

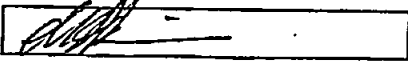
Qualifications / accreditations: TRADESMAN 52 YEARS

Drawings

Drawing & Rev. No.: A Per Drawings Supplier

**Installation Statement**

I confirm that the works carried out to the above premises have been completed in accordance with the relevant clauses of the Building Code of Australia, the relevant Australian Standards and any other relevant requirements of the Development Consent or Alternative Solution including those listed below,

Signature:  Date: 16-5-12

**GLAZING**

**Australian Standard & Building Code Of Australia Clause**

No.	Date	Title	BCA 2011 Clause
AS 1288	2006	Glass in buildings – selection and installation	B1.4, Spec C2.5, Spec C3.4
AS 2047	1989	Windows in buildings – selection and installation	B1.4, F1.13, J3.4

**Building Code of Australia 2011 requirement**

BCA Clause	Title	Requirement
J2.3	Glazing - Method 1	All new lighting is to comply with the BCA's energy efficiency requirements
J2.4	Glazing – Method 2	All new lighting is to comply with the BCA's energy efficiency requirements
J2.5	Shading	All new lighting is to comply with the BCA's energy efficiency requirements
J3.4	Windows and doors seals	All new glazing is to comply with the BCA's energy efficiency requirements



## Industrial Research Services

Materials Science & Engineering, Graham Road (PO Box 56), Highett, Victoria, Australia 3190  
Telephone: 61 3 9252 6000 Facsimile: 61 3 9252 6244 Email: tiles@csiro.au Web: <http://www.cmse.csiro.au>

Registered Testing Authority - CSIRO

15 September 2009

Our Ref. EN13 / 1683 03/2012

### TEST REPORT No. 5061s

Requested by: Forbo Flooring Systems  
on (date): 14 September 2009  
Manufacturer: Forbo Flooring Systems  
Product Desc.: Vinyl Flooring, Code: 8273 Safestep PUR  
1000x500  
Sampling details:  
Where: Delivered  
Date: 14 September 2009  
By whom: Courier  
How (methods): N/A

The results reported relate only to the sample(s) tested and the information received. No responsibility is taken for the accuracy of the sampling unless it is done under our own supervision. CSIRO cannot accept responsibility for deviations in the manufactured quality and performance of the product. While CSIRO takes care in preparing the reports it provides to clients, it does not warrant that the information in this particular report will be free of errors or omissions or that it will be suitable for the client's purposes. CSIRO will not be responsible for the results of any actions taken by the client or any other person on the basis of the information contained in the report or any opinions expressed in it. The reproduction of this test report is only authorised in the form of a complete photographic facsimile. Our written approval is necessary for any partial reproduction.

This test report consists of 6 pages

#### SUMMARY OF SLIP RESISTANCE TESTS PERFORMED:

		Result	Class
AS/NZS 4586:2004	Slip resistance classification of new pedestrian surface materials		
	Appendix A: WET Pendulum (Four S). Mean BPN:	56	V [LOW*]
	Appendix B: DRY (FFT). Mean COF:	0.75	F
	Appendix A,B: Dual classification:		V [LOW*]F
AS/NZS 4586:2004	Slip resistance classification of new pedestrian surface materials		
	Appendix C: WET/BAREFOOT Ramp		
	Mean angle of inclination:	21°	B
AS/NZS 4586:2004	Slip resistance classification of new pedestrian surface materials,		
	Appendix D: OIL-WET Ramp		
	Mean overall acceptance angle:	29.3°	R 12 [MEDIUM*]

\* = CSIRO classification

In order to interpret the classifications, please refer to Standards Australia Handbook 197, An Introductory Guide to the Slip Resistance of Pedestrian Surface Materials, which recommends minimum classifications for a wide variety of locations.

It is important to realise that test results obtained on unused factory-fresh samples may not be directly applicable in service, where proprietary surface coatings, contamination, wear and subsequent cleaning all influence the behaviour of the pedestrian surface.



## Industrial Research Services

Materials Science & Engineering, Graham Road (PO Box 56), Highett, Victoria, Australia 3190  
Telephone: 61 3 9252 6000 Facsimile: 61 3 9252 6244 Email: tiles@csiro.au Web: http://www.cmse.csiro.au

REPORT NO: 5061s  
ISSUE DATE: 15 September 2009  
MANUFACTURER: Forbo Flooring Systems  
PRODUCT DESC: Vinyl Flooring, Code: 8273 Safestep PUR  
1000x500

Page 2 of 6

### SLIP RESISTANCE CLASSIFICATION OF NEW PEDESTRIAN SURFACE MATERIALS

#### WET PENDULUM TEST METHOD

TEST CARRIED OUT IN ACCORDANCE WITH  
AS/NZS 4586:2004 (Appendix A)

Test Date: 14 September 2009

RESULTS: Location: Slip Resistance Laboratory Rubber slider used: Four S  
Sample: Fixed Conditioned with grade P400 paper, dry  
Cleaning: Deionized water  
Temperature: 23°C

Pendulum Friction Tester: Munro-Stanley (S/N: 9234, calibrated 13/09/07)  
Test conducted by: Peter Westgate

	Specimen				
	1	2	3	4	5
Last 3 swings	57	55	55	60	56
	56	54	55	59	56
	55	54	54	59	56
Averages	56	54	55	59	56

Mean BPN : 56

CLASS :

V [LOW\*]

\* = CSIRO classification



## Industrial Research Services

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REPORT NO: 5061s  
ISSUE DATE: 15 September 2009  
MANUFACTURER: Forbo Flooring Systems  
PRODUCT DESC: Vinyl Flooring, Code: 8273 Safestep PUR  
1000x500

Page 3 of 6

### SLIP RESISTANCE CLASSIFICATION OF NEW PEDESTRIAN SURFACE MATERIALS

#### DRY FLOOR FRICTION TEST METHOD

TEST CARRIED OUT IN ACCORDANCE WITH  
AS/NZS 4586:2004 (Appendix B)

Test Date: 14 September 2009

RESULTS Location: Slip Resistance Laboratory  
Sample: Sample Unfixed  
Cleaning: Dry el/static cloth  
Temperature: 23°C  
FFT measurements taken over 2 passes of 800mm each  
Rubber Type: Four S  
Conditioned with grade P400 paper, dry

Floor Friction Tester: Tortus Mk II (S/N: 224)  
Test conducted by: Peter Westgate

Run 1: Average COF: 0.76

Run 2: Average COF: 0.77

Mean COF: 0.77

According to AS/NZS 4586 the Dry Coefficient of Friction shall be reported as :  
(mean rounded to the nearest 0.05)

0.75

CLASS :

F



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Page 4 of 6

### SLIP RESISTANCE CLASSIFICATION OF NEW PEDESTRIAN SURFACE MATERIALS

#### WET/BAREFOOT RAMP TEST METHOD

TEST CARRIED OUT IN ACCORDANCE WITH  
AS/NZS 4586:2004 (Appendix C)

Test Date: 15 September 2009

Location: Slip Resistance Laboratory

Sample Fixed

Joint width: 0 mm

Surface structure:  Smooth  
 Profiled  
 Structured

#### RESULTS

	Actual mean	Reported mean
Mean angle of inclination:	Calibration Board A: 12.78 °	13 °
	Calibration Board B: 19.31 °	19 °
	Calibration Board C: 24.50 °	24 °
Mean angle of inclination of Test Board:	20.78 °	21 °

#### CLASSIFICATION:

Quality Group:

**B**



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Page 5 of 6

### SLIP RESISTANCE CLASSIFICATION OF NEW PEDESTRIAN SURFACE MATERIALS

#### OIL-WET RAMP TEST METHOD

TEST CARRIED OUT IN ACCORDANCE WITH  
AS/NZS 4586:2004 (Appendix D)

Test Date: 15 September 2009

Location: Slip Resistance Laboratory

Sample Fixed

Joint width: 6 mm

Surface structure:  Smooth  
 Profiled  
 Structured

#### RESULTS

Mean overall acceptance angle: 29.3 °

Displacement space: not tested

#### CLASSIFICATION:

Slip Resistance Assessment Group:

R 12 [MEDIUM\*]

Displacement Space Assessment Group:

-

\* = CSIRO classification





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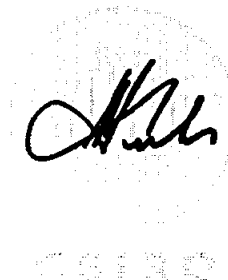
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Page 6 of 6

Date and Place 15 September 2009, Highett, Vic

Name, Title and Digital Signature:



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**\*CSIRO recommended classification of Slip Resistance as determined from:  
AS/NZS 4586: 2004 Slip Resistance Classification of New Pedestrian Surface Materials (Appendices A & D).**

Wet Pendulum Class	BPN 4S Rubber	CSIRO Class LOW	CSIRO Class MEDIUM	CSIRO Class HIGH
V	>54	54-57	58-61	>61
W	45-54	45-48	49-51	52-54
X	35-44	35-38	39-41	42-44
Y	25-34	25-28	29-31	32-34
Z	<25	<18	18-21	22-25
Oil Wet Ramp Class	Angle (degrees)	CSIRO Class LOW	CSIRO Class MEDIUM	CSIRO Class HIGH
R9	≥6 to <10	≥6 to 7.5	7.6 to 9	9.1 to 9.9
R10	≥10 to <19	≥10 to 12	12.1 to 15	15.1 to 18.9
R11	≥19 to <27	≥19 to 21	21.1 to 24	24.1 to 26.9
R12	≥27 to <35	≥27 to 29	29.1 to 32	32.1 to 34.9
R13	≥35	≥35 to 36	36.1 to 38	≥38.1

This table should not be read or relied upon without reference to the CSIRO/Standards Australia publication:  
AS/NZS 4586 Slip Resistance Classification of New Pedestrian Surface Materials (Appendices A & D).

CSIRO has categorized the AS4586 classifications into sub-groups Low, Medium & High. The slip resistance test classification is still determined according to AS 4586 Australian Standard (Appendices A & D). The added information of Low, Medium and High allows professionals to make a better judgement of pedestrian floor requirements.