9 July 2006

AE&D
Active Environmental & Development Pty Ltd

Suite 38/243 Pyrmont Street Pyrmont NSW 2009
Phone. 02 9571 8433
Fax: 02 9571 8466
Mobile 0408 229 384
Email nathanhalstead@ozemail.com.au

Project No: 1307

Pittwater Council
PO Box 882
Mona Vale NSW 1660

Attention: Building/Planning Department

Dear Sir/Madam,

Re: 33 Bassett Street, Mona Vale NSW
Lodgement of Construction Certificate No. 1307-01-2006-CC, dated 9 July 2006
DA No. N0153/05, dated 26/7/05.

I refer to the abovementioned project and advise that we have issued a Construction Certificate for the approved development.

In accordance with the requirements of Clause 142 of the Environmental Planning & Assessment Regulation 2000, I enclose the copies of the following documentation for your records.

1. *Construction Certificate No. 1307-01-2006-CC, dated 9 July 2006.*
2. *Application for Construction Certificate by Douglas Thomson, Thomson Health Care Pty Ltd dated 7 July 2006*
3. *Structural Certification by W Paterson (Paterson Wholohan Grill Pty Ltd) dated 7 July 2006, Reference No. L25663, Project No. 05037*
4. *Fire Safety Engineering Report - Mona Vale Nursing Home, Version B, dated 5 July 2006 by Homes Fire and Safety*
5. *Assessment of Alternate Solution Report, by AE&D dated 9 July 2006*
6. *Long Services Levy Payment Form dated 5/7/06*
7. *Thomson Health Care Pty Ltd cheque number 006359, of $6,400.00 for payment of Long Services Levies.*
8. *Architectural drawings by Machon Paull Consultancy Pty Ltd, Drawings No.*

   WD-01 issue a Site Plan
   WD-02 issue i Ground Floor Plan
   WD-03 issue i First Floor Plan
   WD-04 issue c Elevations
   WD-05 issue e Elevations and Details
   WD-06 issue c Smoke Compartments
   WD-07 issue c Door Schedule
   WD-08 issue a Bedroom/Ensuite Details

Furthermore and in accordance with Clause 162(1) of the Environmental Planning & Assessment Regulation 2000, please find enclosed the Notice of Commencement in relation to the Replacement of PCA, including NSW Dept. of Planning Approval to Appoint a Replacement PCA.

Please also find enclosed the required lodgment fee of $30 00.

If you require any further details please contact the undersigned.

Regards

Nathan Halstead
for AE&D

R 195509
12/7/06 $30

9 July 2006

AE&D
Active Environmental & Development Pty Ltd

Suite 158/243 Pyrmont Street Pyrmont NSW 2009
Phone 02 9571 8433
Fax: 02 9571 8466
Mobile 0408 229 384
Email nathanhalstead@ozemail.com.au

ASSESSMENT OF ALTERNATIVE SOLUTIONS

Project.	*Alterations and additions to existing building to provide aged care accommodation, incorporating fire safety engineering solution*
Address:	33 Bassett Street, Mona Vale NSW
Applicant:	Thompson Health Care Pty Ltd
Alternate Solutions prepared by:	Alternate Solutions as detailed in *Holmes Fire and Safety titled Fire Safety Engineering Report - Mona Vale Nursing Home, Version B dated 5 July 2006.* Report no. 98070 01SJR.R001B.

1.0 INTRODUCTION

The development comprises the redevelopment of the existing building at 33 Bassett Street, Mona Vale for use as an Aged Care Facility, with a BCA Classification of 9c The applicant has proposed Alternative Solutions in relation to construction of a fire isolated stairway and discharge from fire isolated stairways.

The building is provided with a residential sprinkler system in accordance with the BCA requirements for a Class 9c building. The Fire Safety Measures are listed in the Fire Safety Schedule, in section 6.0 of this report.

2.0 DTS NON-COMPLIANCE MATTERS & BCA SUMMARY TABLE

Refer to attached list of Alternate Solutions in the Fire Safety Schedule The Fire Safety Engineering section of the Fire Safety Schedule provides a compliance table summary.

Alternate Solutions as detailed in Fire Safety Report by.

Holmes Fire and Safety titled Fire Safety Engineering Report - Mona Vale Nursing Home, Version B dated 5 July 2006. Report no 98070.01SJR.R001B

3.0 BCA PERFORMANCE REQUIREMENTS

CP8
Any building element provided to resist the spread of fire must be protected, to the degree necessary, so that an adequate level of performance is maintained—
(a) where openings, construction joints and the like occur; and
(b) where penetrations occur for building services.

DP5
To protect evacuating occupants from a fire in the building exits must be fire isolated, to the degree necessary, appropriate to—
(a) the number of storeys connected by the exits, and
(b) the fire safety system installed in the building; and
(c) the function or use of the building; and
(d) the number of storeys passed through by the exits; and
(e) fire brigade intervention.

4.0 VERIFICATION METHOD

With reference to BCA 2006 Clause A0 9, the Assessment Methods used in the case of the alternate solutions are:

- Verification Methods as the appropriate authority accepts for determining compliance with the Performance Requirements, as per BCA Clause A0.9 (b) (ii) and
- Assessment is to be via BCA Clause A0.9(c), 'Comparison with the Deemed-to-Satisfy Provisions'

5.0 REQUIREMENTS OF FIRE SAFETY ENGINEERING ASSESSMENT

As listed in Section 1.3 of the Fire Safety Engineering Report, by Holmes Fire & Safety.

NSW FIRE BRIGADE

No referral to the NSW Fire Brigades is required under Clause 144 or Clause 188 of the Environmental Planning & Assessment Regulation 2000 There are no Alternate Solutions involving Category 2 Fire Safety Provisions

AE&D

6.0 FIRE SAFETY SCHEDULE

PROPERTY *Thomson Health Care Facility*

ADDRESS *25 - 33 Bassett Street, Mona Vale*

PERFORMANCE BASED ALTERNATE SOLUTION YES ☒ NO ☐

BCA CLASSIFICATION. *9c*

ESSENTIAL SERVICE TO BE INSPECTED OR TESTED	INSTALLATION STANDARDS/ LEVEL OF PERFORMANCE	NATURE OF INSPECTION OR TEST, FREQUENCY
General		
Exit doors & paths of travel to exits. Alternate Solution for 1. Discharge from Fire Stairs 2 & 3.	BCA Section D BCA D2.21 – Operation of Latches BCA Performance Requirement DP5, as detailed in Fire Safety Design Report by Holmes Fire & Safety Ltd, dated 5 July 2006 (Rev B) EP& A Regulation 2000, Part 9, Division 7	3 monthly inspections to confirm exit doors are accessible, intact, operational and fitted with conforming hardware. Signage is in place
Fire-rated or smoke-rated doors, panels or windows. Alternate Solution for Central Fire Isolated Stair	BCA Spec C3 4, AS 1905 1 - 1989 BCA Performance Requirement CP8, as detailed in Fire Safety Design Report by Holmes Fire & Safety Ltd, dated 5 July 2006 (Rev. B)	To AS 1851.7
Smoke proof walls and doors Alternate Solution for Central Fire Isolated Stair	BCA Clause C2.5, Specification C2.5 BCA Specification C3.4, AS 1905 1 - 1989	To AS 1851.7
Fire extinguishers (portable)	BCA Clause E1.6, AS 2444 - 2001	To AS 1851.1
Fire indices for materials	BCA Clause C1 10, AS 1530.3 - 1999	Annual inspection to confirm no materials with potentially non-conforming fire indices occur
Fire resisting structures & exits	BCA Sections C and D BCA Performance Requirement CP8 & DP5, as detailed in Fire Safety Design Report by Holmes Fire & Safety Ltd, dated 5 July 2006 (Rev. B)	Annual inspection
Penetrations in fire-rated construction	BCA Part C3	Annual inspection
Warning and operational signage	BCA Clause D2 23 – Fire Exits BCA Clause D1 17 – Lift Pits BCA Performance Requirement DP5, as detailed in Fire Safety Design Report by Holmes Fire & Safety Ltd, dated 5 July 2006 (Rev. B) – External exit and directional signage	Annual inspection
Warning systems associated with lifts (including signs)	BCA Part E3 – Do not use lifts in case of fire	Annual inspection
Mechanical services		
Air conditioning & mechanical ventilation systems, including automatic shutdown of air handling system	BCA Clause E2 2a & Table E2.2a, BCA Specification E2.2a & AS 1668.1 – 1998 & AS 1668.2 - 1991	To AS 1851.6, AS 3666
Fire dampers	BCA Clause & Table E2 2a, AS 1668.1 – 1998 and AS 1682.1 – 1990 and AS 1682.2 – 1990	Annual inspection to AS 1851 6
Electrical services		
Fire detectors and alarm-systems, incorporating manual call points at 30m intervals, illuminated mimic panels and annunciator panels with alpha numeric displays	BCA Clause E2.2a and Clauses 4 & 6 Specification E2 2a & AS 1670 1 -2004	To AS 1851 8
Emergency lighting & exit signs	BCA Part E4, AS 2293.1 - 1998	To AS 2293.2
Hydraulic services		
Fire hydrants & mains	BCA Clause E1 3, AS 2419.1 - 1994	To AS 1851.4
Sprinkler systems, monitored with a direct data link to a fire station of dispatch centre	BCA Clause E1.5 & Table E1.5 BCA Specification E1.5 AS 2118 4 - 1995	To AS 1851.3
Fire hose reels	BCA Clause E1 4, AS 2441 - 1988	To AS 1851.2

Further details of Alternate Solutions:

AE&D

Alternate Solutions as detailed in Fire Safety Report by. *Holmes Fire and Safety titled Fire Safety Engineering Report - Mona Vale Nursing Home, Version B dated 5 July 2006*

ALTERNATE SOLUTION	RELEVANT PROSCRIPTIVE REQUIREMENT CLAUSE	RELEVANT PERFORMANCE REQUIREMENT	ASSESSMENT METHOD
The internal glazed wall bounding the main fire isolated stairway (Stair 1) is to be provided with a glazed wall to be of toughened glass no less than 6mm thick, protected by a dedicated drencher system, in lieu of -?60/60 FRL non-loadbearing construction	Clause C1.1 Specification C1.1	DP5	The Alternate Solution is to comply with the BCA by way of BCA Clause A0 5(b)(i), complies with the Performance Requirements Assessment is to be via BCA Clause A0 9(b)(ii) 'other Verification Methods', by way of qualitative assessment
The external glazed wall of stair 1 is within 6m of the glazed lift lobby. Fire doors are to be provided to the lift at each level. Lift lobby is to be kept clear of storage or any other combustible materials	Clause C3.8(b)	CP8	The Alternate Solution is to comply with the BCA by way of BCA Clause A0.5(b)(i), complies with the Performance Requirements Assessment is to be via BCA Clause A0.9(b)(ii) 'other Verification Methods', by way of qualitative assessment
First floor office window is within 6m of the external glazed wall of a fire isolated exit. Protection not provided to opening within fire isolated exit Office window is to be fixed closed and internally sprinkler protected by a dedicated wall-wetting sprinkler	Clause C3.8(b)	CP8	The Alternate Solution is to comply with the BCA by way of BCA Clause A0.5(b)(ii) 'is shown to be at least equivalent to the Deemed-to-Satisfy Provisions.' Assessment is to be via BCA Clause A0 9(c), 'Comparison with the Deemed-to-Satisfy Provisions'.
The most direct path of travel to the road from fire isolated stair 2 and 3 requires occupants passing within 6m of unprotected openings. Egress signs are to be provided to direct occupants away from openings and around the rear of the building via the event of an uncontrolled fire adjacent to the affected stair. Residential Sprinkler system to be installed throughout the building.	Clause D1.7(c)	DP5	The Alternate Solution is to comply with the BCA by way of BCA Clause A0.5(b)(ii) 'is shown to be at least equivalent to the Deemed-to-Satisfy Provisions.' Assessment is to be via BCA Clause A0.9(c), 'Comparison with the Deemed-to-Satisfy Provisions'.

Requirements of the Fire Safety Engineering Solution:

Refer to Section 1 3 – Schedule of Works, of the Fire Safety Engineering Report.

7.0 SUPPORTING EVIDENCE

- *Holmes Fire and Safety titled Fire Safety Engineering Report - Mona Vale Nursing Home, Version B dated 5 July 2006*
- *Structural Certification by W Paterson (Paterson Wholohan Grill Pty Ltd) dated 7 July 2006, Reference No L25663, Project No. 05037*

8.0 DECISION

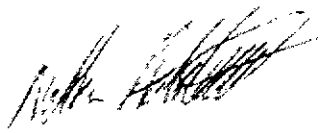
Subject to the Fire Safety Engineering Assessment undertaken including the recommendations, of the Fire Safety Engineering Alternate Solutions as detailed in ***Holmes Fire and Safety titled Fire Safety Engineering Report - Mona Vale Nursing Home, Version B dated 5 July 2006,*** the Alternate Solutions are considered to meet the Performance Requirements of the BCA2006, namely CP8 & DP5 Appropriate assessment methods have been used to demonstrate compliance with the Performance Requirements and appropriate conclusions have been reached The conclusions reached by the Fire Engineered Solution appear to be justified and demonstrate satisfactory fire and life safety provisions have been provided.

In addition to the Fire Safety Engineering Assessment, the building will be provided with appropriate fire safety systems and procedures to provide adequate warning in the case of fire or other emergency (refer to Fire Safety Schedule above).

ACCREDITED FIRE SAFETY ENGINEER - Yes

(Mr Mike Radford – Accredited Fire Safety Engineer – Engineers Australia - 2449872)

Approved



Nathan Halstead

for **AE&D**

Accredited Building Surveyor
AIBS National
BSAP NSW Accredited Certifier/PCA (Building) - Grade 1
NSW Accreditation No P0024

AE&D

NSW GOVERNMENT
Department of Planning

Contact: Name: Suzie Jaitan
Phone: 02 9895 7457
Fax: 02 9895 5916
Email: Suzie.Jaitan@bpb.nsw.gov.au

Our ref: RP 063/06

Ms Jillian Rodgers
Thompson Health Care Pty Ltd
20/924 Pacific Highway
GORDON NSW 2072

Dear Ms Rodgers

Re: Approval to appoint a replacement principal certifying authority

I refer to your application dated 27th April 2006 for approval pursuant to s.109EA of the Environmental Planning and Assessment Act 1979 to appoint **Mr Nathan Halstead** to replace **Mr Paul Aramini** as the principal certifying authority in respect of the development at **No. 25-33 Bassett Street, Mona Vale NSW 2103.**

I advise that as the accreditation body for **Mr Paul Aramini** approval is given for you to proceed to appoint **Mr Nathan Halstead** as the principal certifying authority in respect of the above development.

You should note that Clause 162(1) of the Environmental Planning and Assessment Regulation 2000 requires that a person appointed to replace another person as the principal certifying authority must ensure that notice of the appointment and of this approval of the appointment is given to the consent authority (and, if the consent authority is not the council, to the council) within two days of the appointment.

If you have any enquiries, please contact the Building Professionals Board on 9895 5950.

Yours faithfully

Neil Cocks 5/5/06
Neil Cocks
Director
Building Professionals Board

NSW GOVERNMENT
Department of Planning

COPY

New South Wales Accreditation Scheme for Building Surveyors and Allied Professions
APPLICATION TO REPLACE THE PCA

If you submitted the development application, or if you are the owner of the development land, you can use this form to apply to the Director-General to have the principal certifying authority (PCA) for the development replaced. The Director-General must be satisfied it is appropriate in the circumstances for the PCA to be replaced. You need to submit all the information required in this form, including the application fee, to the Department so that the Director-General can consider the application. You will be notified in writing of the decision of the Director-General.

1. Applicant's details

Name
Title
Given names
Surname — Thompson Health Care P/L / Doug Thompson / Jill Rodgers

Address
Unit/street no. — 20/924
Street — Pacific Hwy
Suburb/town — Gordon
State — NSW
Postcode — 2072

Contact details
Res tel.
Bus tel. — (02) 84879333
Mobile
Fax — (02) 84879334

Are you the owner of the land
☑ Yes ☐ No
If no, please identify the owner of the land
Name
Address

2. Details of the development

Briefly describe the development — Refurbish existing convention centre into 90 nursing home.

Council area: — Pittwater.

Development Address
Unit/street no. — 33
Street — Bassett St
Suburb/town — Mona Vale
State — NSW Postcode

NSW GOVERNMENT
Department of Planning

Development consent
Development consent/~~complying development~~ certificate no. N 0153/05
Date of issue 26 / 7 / 2005

Construction certificate (where relevant)
Construction certificate no. CC 2006-00893
Date of issue 1 / 11 / 2005

Please describe the stage of construction the development has reached (including identifying the certificates that have been issued for the development)
Demolition + structural work complete services 70% complete
Existing trades 30% complete

3. Details of the current PCA
Please identify who has been appointed as the PCA for the development identified above

Name Bernie Cohen / Paul Aramini
Business name Essential Certifiers Liverpool
Business address PO Box 5387 Prestons NSW 2170

Contact details
Bus tel. (02) 9824 1545
Mobile
Fax (02) 9824 1754
Email

Accreditation no. 4790
Level of accreditation Grade 2

Date of appointment (from the Notice of Appointment of the PCA) 29 / 9 / 05

****Please attach a copy of the Notice of Appointment of the PCA**

4. Details of the replacement PCA

Please identify the accredited certifier/council you wish to appoint as the replacement PCA for the above development

Name Nathan Halstead
Business name Active Environmental & Development
Business address Suite 138/243 Pyrmont Street, Pyrmont NSW 2009

Contact details
Bus tel. ( ) 9571 8433
Mobile 0408 229 384
Fax ( ) 9571 8466
Email nathanhalstead@ozemail.com.au

Accreditation no PO024
Level of accreditation Grade 1

NSW GOVERNMENT
Department of Planning

5. Reasons for the application

Please indicate your reasons for applying to replace the current PCA for the above development. The application must be based on fact, refer to any negligence, incompetence and/or breach of BSAP's Code of Professional Conduct, and indicate the events, times, dates, locations and nature of any alleged behaviour.

You may attach supporting documents (please list below those attached)

Alternate solutions involving fire safety + fire engineered solutions required, current PCA level of accreditation cannot approve

6. Application fee

- Please include the relevant application fee with your application. The relevant application fees for transfer of PCA are as follows –

No: of applications	Fees:	Applicant:
1 application	$50.00	per applicant
1-9 applications	$50.00 per application to a maximum of $450.00 for 9 applications)	At one time by the same applicant
10 applications or more	$450.00 + $30.00 per application in excess of 9 applications	At one time by the same applicant

Example:

20 applications	1-9 = $50.00 per application = $450.00 11 = $30.00 per application = $330.00 Total = $780.00	At one time by the same applicant

- $50.00 per application up to 9 applications submitted at one time by the same applicant;
- $450.00 + $30.00 each subsequent application over 9 (submitted at the one time) by the same applicant.

The application fee can be paid by a cheque or money order (made payable to Department of Planning) or contact the Building Professionals Board on 02 9895 5950 to pay by Visa/Master card.

7. Signature of the replacement PCA

- I acknowledge that the development described above has reached the stage identified above;
- I acknowledge my obligations to act in accordance with my rights and responsibilities under the EP&A Act in being appointed as the PCA for the development described above;
- I consent to being appointed as the replacement PCA for the above development from the date approved by the Director-General.

Signature

NSW GOVERNMENT
Department of Planning

Where the replacement PCA will be the council, an authorised officer of the council must sign the application

Name [illegible] Accreditation no. [illegible]

Date 24/04/06 or

Title (authorised officer) _____

8. Signature of the applicant Thompson Health Care Pty Ltd

Signature [illegible] Print Name JILLIAN RODGERS

Date 20/04/06 DIRECTOR

9. Signature of the owner

I, the owner of the above land, consent to the PCA for the development being replaced as indicated above.

Signature [illegible] Print Name JILLIAN RODGERS

Date 20/04/06 DIRECTOR

10. Signature of the person who originally appointed Current PCA

Signature [illegible] Print Name Phillip Pawtt

Date / /

Checklist of attached information

The following information must be attached to support your application.

- ☑ Notice of appointment of the current PCA
- ☑ Signature of the applicant
- ☑ Signature of the Owner
- ☑ Signature of the person who originally appointed current PCA
- ☑ Application fee

Where to send your application

Please send your completed application to:

The Building Professionals Board
Department of Planning
PO Box 3720
PARRAMATTA NSW 2124

If you have any questions about your application, please contact the Building Professionals Board on 02 9895 5950, fax 02 9895 5949.

FILE COPY

ESSENTIAL CERTIFIERS LIVERPOOL

ACN 100386650 ABN 84047117254

SUITE 6, 387-393 HUME HIGHWAY LIVERPOOL NSW 2170
PH: (02) 9824-1545 FAX: (02) 9824-1754 Web Site: www.esscert.com.au
BUILDING CONSULTANCY:INSPECTIONS:CERTIFICATION OF ESSENTIAL SERVICES:TOWN PLANNING

NOTICE OF COMMENCEMENT OF BUILDING WORK & APPOINTMENT OF PRINCIPAL CERTIFYING AUTHORITY

Under Environmental Planning and Assessment Act 1979
Section 81A (2) (b), (ii) or (c), or (4) (b) (ii) or (c), 86 (1) and (2).

SUBJECT LAND DETAILS:

Lot No: 2 DP No: 74842

Street No & Suburb: 29-33 Bassett Street Mona Vale

Approved Development for: Alterations / Additions to provide aged care accommodation.

CONSTRUCTION CERTIFICATE DETAILS:

Certificate No: 526/593 Date of Approval:

OTHER CONSENT/S: Council D/A ☑ or Complying Development ☐

Consent No: 153/05 Date of Determination: 26/7/05

PRINCIPAL CERTIFYING AUTHORITY DETAILS:

Accredited Certifier: Paul Assmi Accreditation No: 4790

Accredited Certifier's signature: P. Assmi

COMPLIANCE WITH DEVELOPMENT CONSENT / COMPLYING DEVELOPMENT CERTIFICATE:

Have all conditions been satisfied prior to the commencement of work:

☑ Yes ☐ No *(Conditions may include payment of Security deposits, Section 94 Contributions, endorsement of building work plans by Water Supply Authority, LSL Contributions).*

APPROX. DATE BUILDING WORK IS TO COMMENCE: November 2005

HOME BUILDING ACT 1989 REQUIREMENTS:

Principal Certifying Authority has been advised of the requirements of Cl 78C of the Regulation

☑ Yes ☐ No ☐ N/A - reason: .....

Home Building Act 1989 requirements in case of building work that involves residential building work (within the meaning of the *Home Building Act 1989*) attached as follows:

(a) in the case of work by a license under the act:
  (i) a statement detailing the licensee's name and contractor licence number, and
  (ii) documentary evidence that the licensee has complied with the applicable requirements of that Act(*), or;

(b) in the case of work done by any other person:
  (i) a statement detailing the person's name and owner-builder permit number, or
  (ii) a declaration signed by the owner of the land, to the effect that the reasonable market cost of the labour and materials involved in the work is less than the amount prescribed for the purposes of the definition of *owner-builder* work in Section 29 of the Act.

(*) A certificate purporting to be issued by an approved insurer under Part 6 of the *Home Building Act 1989* to the effect that a person is the holder of an insurance contract issued for the purposes of that Part, is sufficient evidence that the person has complied with the requirements of that Part.

DECLARATION

I, the undersigned, declare that I have the legal authority (express or implied) to engage a Principal Certifying Authority for the building works described in this document and verify that all information pertaining to such work is correctly stated on this form.

I understand that this Notice must be given to the relevant Local Council two (2) days prior to the intention to commence building work in accordance with S81A(2)(c) of the EP&A Act and verify that no building work will commence prior to the date given in the "Date the Building Work is to Commence" section of this document.

As a condition of appointing the Principal Certifying Authority stipulated on this form, I agree to undertake the following responsibilities; ensure the Builder contacts the PCA at the specified stages of development (as indicated below); to carry out building work in accordance with a current Development Approval; to notify the PCA of any intent to depart from the issued Development Approval as soon as the intention arises; and to verify all documents provided to the Private Certifying Authority are bona fide and correct in detail.

I hereby authorize the Builder as detailed on the approved Construction Certificate to contact the PCA at the specified stages of development, but not limited to these stages, in order to obtain an inspection as follows:

*Pre Commencement*Stormwater*Framework*Wet Areas*Completion*Any other stage as specified by the PCA.

I fully understand that failure to do so may result in the PCA issuing a Notice of Intention to Serve an Order.

Owner's or Tennant's Signature: T Thompson

Dated: 29.9.05

Print Name: Douglas Thompson for Thompson Health Care Pty Ltd.

Address: P.O. Box 658 Gordon 2072.

CONSTRUCTION CERTIFICATE

NO. 1307 - 01 - 2006 - CC

Active Environmental & Development Pty Ltd
ABN 14 090 649 380

Suite 138/243 Pyrmont Street
Pyrmont NSW 2009

Phone 02 9571 8433
Fax 02 9571 8466
Mobile 0408 229 384

DESCRIPTION	*Alterations and additions to existing building to provide aged care accommodation, incorporating fire safety engineering solution*
PROPERTY	*25 - 33 Bassett Street, Mona Vale NSW 2103*

This certificate is issued by a certifying authority and verifies that, if the applicant carries out the proposed work in accordance with the plans and specifications that are approved, the work will comply with the Environmental Planning and Assessment Regulation 2000.
Issue under Section 81A(5) and Part 4A Section 109C of the Environmental Planning & Assessment Act 1979

1. DETAILS OF THE APPLICANT

MR ☒ MS ☐ MRS ☐ DR ☐ COMPANY ☒ OTHER ☐

APPLICANT	*Thomson Health Care Pty Ltd (Douglas Thomson)*				
ADDRESS	*924 Pacific Highway*				
	PO Box 658				
SUBURB	*Gordon*	STATE	*NSW*	POSTCODE	*2072*
TELEPHONE	*8467 9333*	FAX	*8467 9334*		
MOBILE	*0419 237 608*	EMAIL	-		

2. DETAILS OF THE DEVELOPMENT CONSENT

DEVELOPMENT APPLICATION NO.	*N0153/05*	DATE ISSUED	*26 July 2005*
CONSENT AUTHORITY	*Pittwater Council*		
MODIFICATION APPLICATION NO.	-	DATE ISSUED	-
BCA CLASSIFICATION	*9c*		
APPROVED USE	*Aged care accommodation*		

3. DETAILS OF THE LAND TO BE DEVELOPED

ADDRESS	*25 - 33 Bassett Street*		
SUBURB	*Mona Vale*	STATE *NSW*	POSTCODE *2103*
LOT NO.	*2*	SECTION -	
DP/MPS NO.	*74842*	VOLUME/FOLIO -	

You can find the Lot No Section, DP/MPS No and Volume/Folio details on a map of the land or on the title documents for the land. If you need additional room please attach a schedule and/or a map with these details.

4. DESCRIPTION OF THE WORK PROPOSED

TYPE OF WORK PROPOSED:

☒ BUILDING

☐ SUBDIVISION

DESCRIPTION OF THE WORK

Alterations and additions to existing building to provide aged care accommodation, incorporating fire safety engineering solution

Estimated Value of the Works

$2,000,000

5. DECISION OF THE CERTIFYING AUTHORITY

☒ APPROVED

☐ REFUSED (if refused provide reason/s)

Works approved under this construction certificate

Alterations and additions to existing building to provide aged care accommodation, incorporating fire safety engineering solution

This certificate is issued:

☒ without any conditions

☐ subject to conditions of the kind referred to in clauses 144, 187 or 188 of the Environmental Planning and Assessment Regulation 2000

Endorsement of Plans:

The issue of this certificate has been endorsed on the plans and specifications that were lodged with the application.

Plan No/Specifications Approved:

Architectural drawings by Machon Paull Consultancy Pty Ltd,

Drawings No.

WD-01 issue a Site Plan
WD-02 issue i Ground Floor Plan
WD-03 issue i First Floor Plan
WD-04 issue c Elevations
WD-05 issue e Elevations and Details
WD-06 issue c Smoke Compartments
WD-07 issue c Door Schedule
WD-08 issue a Bedroom/Ensuite Details

DATE OF THIS DECISION *9 July 2006*

6. INFORMATION ATTACHED TO THIS DECISION

- *Application for Construction Certificate by Douglas Thomson, Thomson Health Care Pty Ltd dated 7 July 2006*
- *Structural Certification by W Paterson (Paterson Wholohan Grill Pty Ltd) dated 7 July 2006, Reference No. L25663, Project No. 05037*
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- *Long Services Levy Payment Form dated 5/7/06*
- *Thomson Health Care Pty Ltd cheque number 006359, of $6,400 00 for payment of Long Services Levies.*

7. CERTIFICATION

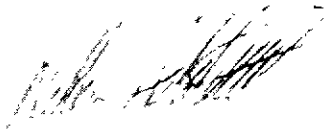
I, Nathan Halstead for AE&D,

certifies that if the work is completed following the plans and specifications which have been approved (with such modifications verified by the Certifying Authority as may be shown on the approved documentation), it will comply with the requirements of the Environmental Planning and Assessment Regulation 2000 as referred to in Section 81A of the Environmental Planning and Assessment Act 1979.

CONSTRUCTION CERTIFICATE NO. *1307-01-2006-CC* DATE *9 July 2006*

8. SIGNATURE

For this certificate to be valid, it must be signed by the certifying Authority.

SIGNATURE 

NAME	*Nathan Halstead for Active Environmental & Development Pty Ltd (AE&D)*				
ADDRESS	*138/243 Pyrmont Street*				
SUBURB	*Pyrmont*	STATE	*NSW*	POSTCODE	*2009*
TELEPHONE	*9571 8433*	FAX	*9571 8466*		
MOBILE	*0408 229 384*	EMAIL	*nathanhalstead@ozemail.com au*		
ACCREDITATION BODY OF THE CERTIFIER	*Dept of Planning / BSAP*				
ACCREDITATION NO OF THE CERTIFIER	*P0024*				

Note: Prior to commencement of work the requirements of Section 81A(2)(b)(i) and (ii) and (b2)(i) and (iii) and (c) of the Environmental Planning & Assessment Act 1979, must be addressed and satisfied

FIRE SAFETY SCHEDULE

PROPERTY *Thomson Health Care Facility*

ADDRESS *25 - 33 Bassett Street, Mona Vale*

PERFORMANCE BASED ALTERNATE SOLUTION YES ☒ NO ☐

BCA CLASSIFICATION *9C*

ESSENTIAL SERVICE TO BE INSPECTED OR TESTED	INSTALLATION STANDARDS/ LEVEL OF PERFORMANCE	NATURE OF INSPECTION OR TEST, FREQUENCY
General		
Exit doors & paths of travel to exits. Alternate Solution for. 1. Discharge from Fire Stairs 2 & 3.	BCA Section D BCA D2.21 – Operation of Latches BCA Performance Requirement DP5, as detailed in Fire Safety Design Report by Holmes Fire & Safety Ltd, dated 5 July 2006 (Rev. B) EP& A Regulation 2000, Part 9, Division 7	3 monthly inspections to confirm exit doors are accessible, intact, operational and fitted with conforming hardware. Signage is in place
Fire-rated or smoke-rated doors, panels or windows. Alternate Solution for Central Fire Isolated Stair	BCA Spec C3.4, AS 1905.1 - 1989 BCA Performance Requirement CP8, as detailed in Fire Safety Design Report by Holmes Fire & Safety Ltd, dated 5 July 2006 (Rev. B)	To AS 1851.7
Smoke proof walls and doors Alternate Solution for Central Fire Isolated Stair	BCA Clause C2.5, Specification C2.5 BCA Specification C3.4, AS 1905.1 - 1989	To AS 1851.7
Fire extinguishers (portable)	BCA Clause E1.6, AS 2444 - 2001	To AS 1851.1
Fire indices for materials	BCA Clause C1 10, AS 1530.3 - 1999	Annual inspection to confirm no materials with potentially non-conforming fire indices occur
Fire resisting structures & exits	BCA Sections C and D BCA Performance Requirement CP8 & DP5, as detailed in Fire Safety Design Report by Holmes Fire & Safety Ltd, dated 5 July 2006 (Rev. B)	Annual inspection
Penetrations in fire-rated construction	BCA Part C3	Annual inspection
Warning and operational signage	BCA Clause D2.23 – Fire Exits BCA Clause D1 17 – Lift Pits BCA Performance Requirement DP5, as detailed in Fire Safety Design Report by Holmes Fire & Safety Ltd, dated 5 July 2006 (Rev. B) – External exit and directional signage	Annual inspection
Warning systems associated with lifts (including signs)	BCA Part E3 – Do not use lifts in case of fire	Annual inspection
Mechanical services		
Air conditioning & mechanical ventilation systems, including automatic shutdown of air handling system	BCA Clause E2.2a & Table E2.2a, BCA Specification E2.2a & AS 1668.1 – 1998 & AS 1668.2 - 1991	To AS 1851.6, AS 3666
Fire dampers	BCA Clause & Table E2.2a, AS 1668.1 – 1998 and AS 1682.1 – 1990 and AS 1682 2 – 1990	Annual inspection to AS 1851.6
Electrical services		
Fire detectors and alarm-systems, incorporating manual call points at 30m intervals, illuminated mimic panels and annunciator panels with alpha numeric displays	BCA Clause E2.2a and Clauses 4 & 6 Specification E2.2a & AS 1670.1 -2004	To AS 1851.8
Emergency lighting & exit signs	BCA Part E4, AS 2293.1 - 1998	To AS 2293.2
Hydraulic services		
Fire hydrants & mains	BCA Clause E1.3, AS 2419.1 - 1994	To AS 1851 4
Sprinkler systems, monitored with a direct data link to a fire station of dispatch centre	BCA Clause E1.5 & Table E1 5 BCA Specification E1.5 AS 2118.4 - 1995	To AS 1851.3
Fire hose reels	BCA Clause E1.4, AS 2441 - 1988	To AS 1851 2

Further details of Alternate Solutions:

FIRE SAFETY ENGINEERING

Alternate Solutions as detailed in Fire Safety Report by. *Holmes Fire and Safety titled Fire Safety Engineering Report - Mona Vale Nursing Home, Version B dated 5 July 2006*

ALTERNATE SOLUTION	RELEVANT PROSCRIPTIVE REQUIREMENT CLAUSE	RELEVANT PERFORMANCE REQUIREMENT	ASSESSMENT METHOD
The internal glazed wall bounding the main fire isolated stairway (Stair 1) is to be provided with a glazed wall to be of toughened glass no less than 6mm thick, protected by a dedicated drencher system, in lieu of -?60/60 FRL non-loadbearing construction	Clause C1.1 Specification C1.1	DP5	The Alternate Solution is to comply with the BCA by way of BCA Clause A0.5(b)(i), complies with the Performance Requirements Assessment is to be via BCA Clause A0.9(b)(ii) 'other Verification Methods', by way of qualitative assessment.
The external glazed wall of stair 1 is within 6m of the glazed lift lobby Fire doors are to be provided to the lift at each level Lift lobby is to be kept clear of storage or any other combustible materials	Clause C3.8(b)	CP8	The Alternate Solution is to comply with the BCA by way of BCA Clause A0.5(b)(i), complies with the Performance Requirements Assessment is to be via BCA Clause A0.9(b)(ii) 'other Verification Methods', by way of qualitative assessment
First floor office window is within 6m of the external glazed wall of a fire isolated exit Protection not provided to opening within fire isolated exit. Office window is to be fixed closed and internally sprinkler protected by a dedicated wall-wetting sprinkler.	Clause C3.8(b)	CP8	The Alternate Solution is to comply with the BCA by way of BCA Clause A0 5(b)(ii) 'is shown to be at least equivalent to the Deemed-to-Satisfy Provisions ' Assessment is to be via BCA Clause A0.9(c), 'Comparison with the Deemed-to-Satisfy Provisions'.
The most direct path of travel to the road from fire isolated stair 2 and 3 requires occupants passing within 6m of unprotected openings Egress signs are to be provided to direct occupants away from openings and around the rear of the building via the event of an uncontrolled fire adjacent to the affected stair. Residential Sprinkler system to be installed throughout the building	Clause D1 7(c)	DP5	The Alternate Solution is to comply with the BCA by way of BCA Clause A0 5(b)(ii) 'is shown to be at least equivalent to the Deemed-to-Satisfy Provisions ' Assessment is to be via BCA Clause A0.9(c), 'Comparison with the Deemed-to-Satisfy Provisions'

Requirements of the Fire Safety Engineering Solution:

Refer to Section 1.3 – Schedule of Works, of the Fire Safety Engineering Report.

APPLICATION FOR A CONSTRUCTION CERTIFICATE

AE&D
Active Environmental & Development Pty Ltd
ABN 14 090 849 380

Suite 138/243 Pyrmont Street
Pyrmont NSW 2009

Phone 02 9571 8433
Fax 02 9571 8466
Mobile 0406 229 384

1. Details of the applicant

Mr ☐ Ms ☐ Mrs ☐ Dr ☐ Other

First name: Douglas
Family name: Thomson
Company/Organisation: Thomson Health Care Pty Ltd
Flat/street no.: 924
Street name: Pacific Highway
Suburb or town: Gordon
State: NSW
Postcode: 2072
Postal Address: PO Box 658
Suburb or town: Gordon
State: NSW
Postcode: 2072
Daytime telephone: 84679333
Fax: 84679334
Mobile: 0419237608
Email:

2. Identify the land

Flat/street no.: 25-33
Street name: Bassett St
Suburb or town: Mona Vale
Postcode: 2103
Lot no.: 2
Section:
DP/MPS no.: 74842
Volume/folio:

You can find the lot no., section, DP/MPS no. and volume/folio details on a map of the land or on the title documents for the land. If you need additional room, please attach a schedule and/or a map with these details.

3. Estimated cost of the development

$ 2,000,000 including GST

4. Describe the development

What type of work do you propose to carry out?

Building work ☒

Subdivision work ☐

Describe the work

Alterations and Additions to existing building to provide aged care accommodation

For building work, what is the class of the building under the Building Code of Australia?

9c

Has development consent been granted for the development?

No ☐

Yes ☒ ➢ What is the development application no.?

N0153/05

What date was development consent granted?

26 July 2005

5. Information to be attached to the application

You need to provide material with your application that is relevant to the type of work you propose to do. Please indicate the material you have attached by placing a cross in the appropriate boxes ☐:

1. **If you are going to carry out building work:**

☐ a copy of any compliance certificates on which you rely

☒ detailed plans of the building (4 copies)

The plans must be drawn to a suitable scale and consist of a general plan and a block plan. The general plan of the building is to:

- show a plan of each floor section
- show each elevation of the building
- show the level of the lowest floor, the level of any yard or unbuilt area on that floor and the level of the ground
- indicate the fire safety and fire resistance measures (if any), and their height, design and construction

Where you propose to alter, add to or rebuild a building that is already on the land, or modify plans that have already been approved, please mark the general plan (by colour or otherwise) to show the change you propose to make.

☒ detailed specifications of the building (4 copies)

The specifications are to:

describe the construction (including the standards that will be met), the materials which will be used to construct the building and the methods of drainage, sewerage

- and water supply
- state whether the materials proposed to be used are new or second hand and give details of any second-hand materials to be used.

Where you propose to modify specifications that have already been approved, please mark the approved specifications (by colour or otherwise) to show the modification.

☒ a plan of the existing building, drawn to scale, where the application involves building work to alter, enlarge or extend that building

This plan will assist us to assess whether the work will reduce the fire protection capacity of the building.

☒ where you propose to meet the performance requirements of the Building Code of Australia (BCA) by using an alternative solution to the deemed-to-satisfy provisions of the BCA:

- a list of the performance requirements you will meet by using the alternative solution
- the details of the assessment methods you will use to meet those performance requirements
- a copy of any compliance certificates on which you rely

☐ evidence of any accredited component, process or design on which you seek to rely

Components, processes or designs that relate to the erection or demolition of a building are accredited under the Environmental Planning and Assessment Regulation 2000.

☒ details of the fire safety measures, unless you are building a single dwelling or a non-habitable building or structure (such as a private garage, carport, shed, fence, antenna, wall or swimming pool). These details are to include:

- a list of any fire safety measures you propose to include in the building or on the land
- if you propose to alter, add to or rebuild a building that is already on the land, a list of the fire safety measures that are currently used in the building or on the land

The lists must describe the extent, capability and the basis of design of each measure.

☐ the attached schedule, completed for the development

The information in the schedule will be used by the Australian Bureau of Statistics to report each quarter on the building activity that occurs in the economy. Building statistics allow governments and businesses to accurately identify main areas of population growth and demand for products and services.

You may also need to pay a long service levy under section 34 of the *Building and Construction Industry Long Service Payments Act 1986* (or where such a levy is payable by instalments, the first instalment of the levy) before we can issue a certificate to you.

2. **If you are going to change the use of a building** or its classification under the Building Code of Australia and you are doing building work (unless the building will now be used as a single dwelling or a non-habitable building or structure such as a private garage, carport, shed, fence, antenna, wall or swimming pool):

☒ a list of any fire safety measures you propose to include in the building or on the land

☐ if you propose to alter, add to or rebuild a building that is already on the land, a list of the fire safety measures that are currently used in the building or on the land

The lists of fire safety measures must describe the extent, capability and the basis of design of each measure.

☒ details as to how the building will comply with the Category One fire safety provisions of the Building Code of Australia.

6. Signatures

The owner(s)* of the land to be developed must sign the application.

If you are not the owner* of the land, you must have all the owners sign the application. If the land is Crown land, an authorised officer of the Department of Infrastructure, Planning and Natural Resources (previously known as the Department of Land and Water Conservation) must sign the application

As the owner(s)* of the above property, I/we consent to this application:

Signature

Name: Douglas Thompson

Date: 7-7-06

Signature

Name

Date

* Note: For applications within the Kosciuszko ski resorts area, the approval of the lessee rather than owner is required.

The applicant, or the applicant's agent, must sign the application.

Signature

Name, if you are not the applicant: Douglas Thompson

Date: 7-7-06

In what capacity are you signing if you are not the applicant?

7. Privacy policy

The information you provide in this application will enable your application to be assessed by the certifying authority.

P W G

7 July 2006

Ref: L25663
Project No: 05037

A E & D
Suite 138
243 Pyrmont Road
PYRMONT NSW 2009

Fax: 9571 8466

RE: AGED CARE FACILITY AT 33 BASSETT STREET, MONA VALE

We certify that the design and construction of the new lift and stair areas of the above project has been designed in accordance with the structural requirements of AS1170 and BCA Section B and, we certify that they have been installed in accordance with the structural design prepared by this company.

Yours faithfully,

W. Paterson, B.E. (Hons) 1964
Managing Director

PATERSON WHOLOHAN GRILL PTY LIMITED
CONSULTING CIVIL AND STRUCTURAL ENGINEERS
PO BOX 355 ST LEONARDS NSW 2065. 621 PACIFIC HIGHWAY ST LEONARDS AUSTRALIA
TEL: (02) 9906 3999 FAX: (02) 9906 1219 A.C.N. 051 404 463 A.B.N. NO: 16 003 298 146
pwgeng@ozemail.com.au

Construction Certificate No 1807-01-2006-CC
Date Issued 9/7/06
Approved by [illegible] D Pty Ltd
BSAP Accreditation No. P0024

FIRE SAFETY ENGINEERING REPORT

Mona Vale Nursing Home

33 Bassett Street, Mona Vale, NSW

5th July 2006, Version B

Fire Safety Engineering Report

holmes
fire & safety

MONA VALE NURSING HOME

33 BASSETT STREET,
MONA VALE,
NSW

For

Thompson Health Care

Sydney

Telephone

+61 2 9299 5321

Facsimile

+61 2 9299 5331

Holmes Fire

& Safety Ltd

L2 30 Clarence Street

Sydney NSW 2000

PO Box Q1643

QVB Post Office

Sydney NSW 1230

Australia

ARBN 080 314 549

Offices in

Australia

New Zealand

sydney@holmesfire.com

5th July 2006

Version B

LONG SERVICE
BUILDING & CONSTRUCTION

LEVY PAYMENT FORM

See reverse of form for instructions

FORM NO.
OFFICE USE ONLY

PART A – DETAILS OF PERSON ... LIABLE

PLEASE PRINT ALL DETAILS USING CAPITALS

Surname (if person) or Company/Organisation name: THOMASON HEALTH CARE P/L

Given names (if person):

ABN (if applicable): 29 000 745 004

POSTAL ADDRESS
No. and street or PO Box: PO BOX 658

Town/suburb: GORDON

State: NSW Postcode: 2072 Bus. hours phone: 0294679333

PART B – ADDRESS ...

Number and street: 33 BASSETT ST

Town/suburb: MONA VALE

State: NSW Postcode: 2103

Estimated start date D ☐☐ M 06 Y 2006 Estimated finish date D ☐☐ M 05 Y 2006

Local Council Area: PITTWATER

[1] DA/CC/CDC No.: N0153/05

Estimated value of work (see note on back) $ 1,827,000.00 Levy payable $ 6,400.00

[1] If you have provided a CC above, please provide DA number here

Signature of ~~Officer~~/Private Certifier: [signature] Date D 05 M 07 Y 2006

Name of ~~Officer~~/Private Certifier: NATHAN HALSTEAD Business hours phone: 9406229334

Department/Authority

Contract/DA No (circle which) Contract amount $ ☐,☐☐☐,☐☐☐,☐☐☐.☐☐

Levy payable $ ☐,☐☐☐,☐☐☐.☐☐

Contact person (Print) ______ Phone number

Contact person (Signature) ______ Date D ☐☐ M ☐☐ Y ☐☐☐☐

Any false or misleading information provided on this form may result in prosecution under Section 58A.
I hereby declare that the information provided on this form is true and correct to the best of my knowledge

Name: DOUG THOMSON Signature ______ Date D ☐☐ M ☐☐ Y ☐☐☐☐

Exemption Approval Certificate No. ______

TELEPHONE : (02) 8467 9333
FAX : (02) 8467 9311

THOMPSON HEALTH CARE PTY LTD

ACN 000 745 004 / ABN 29 000 745 004
PO BOX 658, GORDON NSW 2072

THOMPSON HEALTH CARE

REMITTANCE ADVICE

Long Service Levy Board

Our Ref: LON002

Cheque: 6359

Date: 7/07/2006

Date	Invoice Number/Details	Home	Payment Amount
	CONSTRUCTION A/C		6,400.00

Total Payment Amount: 6,400.00

PLEASE DETACH BEFORE BANKING

SECURITY FEATURE INCLUDED IN THIS CHEQUE IS A MICROPRINTED SIGNATURE LINE. THE ABSENCE OF WHICH COULD INDICATE A FRAUDULENT CHEQUE

National

National Australia Bank Limited

345 GEORGE STREET BRANCH SYDNEY NSW

THOMPSON HEALTH CARE

PAY TO Long Service Levy Board

OR BEARER

DATE 7/07/2006

	DOLLARS						GENTS
	HUNDREDS OF THOUSANDS	TENS OF THOUSANDS	THOUSANDS	HUNDREDS	TENS	UNITS	
THE SUM OF	ZERO	ZERO	SIX	FOUR	ZERO	ZERO	00

$ ****6,400.00****

NOT NEGOTIABLE ACCOUNT PAYEE ONLY

For and on behalf of
THOMPSON HEALTH CARE PTY LTD
ACN 000 745 004 / ABN 29 000 745 004

⑈006359⑈ 082⑈00 1⑆48216⑈4293⑈

REPORT ISSUE AUTHORISATION

Project: Mona Vale Nursing Home

Project No. 98070.01

Version	Date	Status	Prepared	Reviewed
A	19 May 2006	Final Report	SJR/GDM	MWR
B	5 July 2006	Final Report	SJR/GDM	MWR

Version	Extent of revision
B	Inclusion of assessment of most direct path of travel from fire-isolated Stair 2 and 3 discharge passing within 6m of unprotected openings

This report caters specifically for the requirements for this project, the client and associated regulatory/approval process. No warranty is intended or implied for use by any other third party and no responsibility is undertaken to any other third party for any material contained herein.

Fire safety solutions described in this report may be alternative solutions to those given by the BCA Deemed-to-Satisfy Provisions. Consideration of protection of the building owner's property may not be included unless this has been specifically requested – refer to Section 1.4 of this report.

Written by: _____
Samia Rusbridge
Fire Safety Engineer
BE Hons (Mech), MEFE (Fire), MIEAust

And : _____
Glen Mitchell
Fire Safety Engineer
BE Hons (Mech), MEFE (Fire), MIEAust

Reviewed by: _____
Mike Radford
Fire Safety Engineer
BE, ME (Fire), CPEng (AUS/NZ), IntPE, NPER
Accredited Certifier (Fire Safety Engineering under IEAust, 2449872)

EXECUTIVE SUMMARY

This report addresses the existing development located at 33 Bassett Street, Mona Vale, with consideration given to the proposed alterations and change of use to a Class 9c occupancy, for compliance with the relevant Performance Requirements of the Building Code of Australia 2005.

The area of design requiring an Alternative Solution relates to the fire-isolation of the main stair, identified as Stair 1, the protection of openings in fire-isolated exits and the discharge of the fire-isolated Stair 2 and 3 that necessitates travel within 6m of unprotected openings.

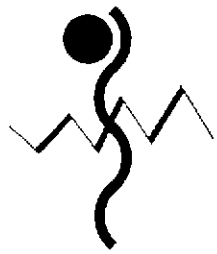
A performance based assessment has been carried out on this aspect of design, with the objective being satisfaction of the relevant Performance Requirements of the BCA, these being CP8 and DP5. It has been established that this objective will be met by the proposed design of the building, being the provision of sprinklers throughout the building, dedicated drenchers toughened glazing protecting the internal northern glazed wall of Stair 1, wall-wetting sprinklers to internally protect the fixed-closed window of the First Floor office adjacent to the fire-isolated stair and minimisation of the fuel load within the lift lobby.

Ongoing compliance of the building with this report can be achieved by compliance with the following conditions:

(i) The Schedule of Works specified within Section 1.3 of this report is carried out; and

(ii) The limitations specified within Section 1.4 of this report are considered.

It is assumed that the schedule of works, limitations and assumptions of this report are read and understood. The author of this report should be contacted if there are any queries in regards to the content. Holmes Fire & Safety takes no responsibility for the misinterpretation by others.



CONTENTS

1 INTRODUCTION

1.1 Report Purpose

The purpose of this report is to document a fire engineered Alternative Solution that achieves compliance with the Building Code of Australia 2005 (BCA)[1] Performance Requirements where the proposed development does not comply with BCA Deemed-To-Satisfy (DTS) Provisions.

The subject building, located at 33 Bassett Street, Mona Vale, is an existing two storey convention centre with carparking that is being converted to an aged care facility. A BCA assessment of the building, prepared by Holmes Fire & Safety, dated 21st February 2005, noted that an Alternative Solution would be required in relation to the construction of the internal wall bounding the main fire-isolated stairway (Stair 1) being provided with a glazed wall in lieu of -/60/60 FRL non-loadbearing construction and protection of openings within 6m of the external glazed walls of the stair.

An additional non-compliance was noted by Active Environmental & Development Pty Ltd on the 4th July 2006 in relation to the possibility of occupants passing within 6m of unprotected openings after discharging from fire-isolated Stair 2 and Stair 3.

An Alternative Solution is proposed that will achieve compliance with the relevant Performance Requirements of the BCA, being CP8 and DP5.

1.2 Relevant Stakeholders

The following groups are considered to be stakeholders in the development of the fire safety design process for the subject proposal:

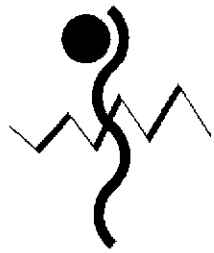
(i) Thompson Health Care Pty Ltd – Client

(ii) Northside Construction – Builder

(iii) Machon Paull Consultancy Pty – Architect

(iv) Active Environmental & Development Pty Ltd – Certifier

(v) Holmes Fire & Safety – Fire Engineer

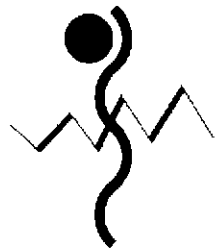


1.3 Schedule of Works

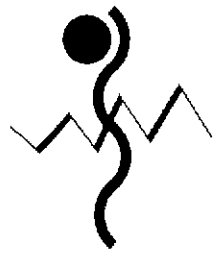
The following works are to be implemented within the building to satisfy the requirements of this fire safety engineering assessment.

Table 1.1 Schedule of works

Item	Description	Relevant Party(s)
1 – Sprinkler system	A sprinkler system complying with BCA Clause E1.5 and AS 2118.4-1995 is to be provided throughout the building, as required by the BCA DTS provisions.	Sprinkler contractor
2 – Office window	The First Floor office window adjacent to western side of Stair 1 is to be fixed closed and protected internally by a dedicated wall-wetting sprinkler complying with BCA Clause C3.4.	Builder and Sprinkler contractor
3 – Stair 1 internal glazing	Internal glazing bounding Stair 1 is to be toughened glass of no less than 6 mm thickness and is to be supported by non combustible framework, i.e. aluminium, steel or the like. The glazing and associated framework is to be mounted and fixed directly onto the concrete floor slab and to extend and be fixed to either the underside of the concrete floor above (applicable to Ground Floor only), a ceiling achieving an FRL of -/60/60 or a downturn achieving an FRL of -/60/60. Horizontal mullions are not permitted within the glazing as these would prevent the even distribution of water down the face of the glazing from the drenchers. The glazing is to be permanently fixed in the closed position. All gaps between the glazing/glazing framework and the adjoining construction are to be sealed with a fire-rated sealant.	Architect/ Builder
4 – Stair 1 glazed doors	The glazed doors bounding Stair 1 are to be toughened glass of no less than 6 mm thickness and are to be supported by non combustible framework, i.e. aluminium, steel or the like. Horizontal mullions are not permitted within the glazing. Gaps between the door and doorframe are not to exceed that for fire doors (as per AS 1905.1:1997); being 3 mm to the side and top, and not less than 3 mm and not more than 10 mm between the leaf and the top of any floor covering.	Builder
5 – First Floor Stair 1 drenchers	Drenchers are to be installed to provide full height coverage to both sides of all internal glazing bounding the fire-isolated stairway at First Floor level, inclusive of doorways. Refer to Item 11 and Figures 7.1, 7.2 and 7.3.	Sprinkler contractor



Item	Description	Relevant Party(s)
6 – Ground Floor Stair 1 drenchers	Drenchers are to be installed to provide full height coverage on the tenantable side of all internal glazing associated with the fire-isolated stairway at Ground Floor level, inclusive of doorways. Drenchers are not required to be provided within the fire-isolated stairway at Ground Floor level. Refer to Item 11 and Figures 7.1, 7.2 and 7.3.	Sprinkler contractor
6 – Stop valves	The sprinkler system and the drencher system are to be provided with separate stop valves such that each system may be independently isolated, allowing the other system to remain operational. The drenchers must not simply be an extension of the sprinkler system.	Sprinkler contractor
8 – Openings in fire-isolated exits	With the exception of the FRL requirements, which are subject to an Alternative Solution, openings in the fire-isolated exit are to comply with the BCA DTS provisions of Clause C3.8(a). This is applicable to the four sets of doors providing access to Stair 1.	Builder
9 – Lift	Lift shaft is to be 120/120/120 FRL construction, including between lift and lobby. The entrance doorways to the lift must be protected by -/60/- fire doors that comply with AS 1735.11-1986 and that are set to remain closed except when discharging or receiving passengers or goods.	Lift contractor and builder
10 – External Signage	External exit signage is to be provided on the fence opposite the discharge point of Stair 2 and Stair 3 indicating travel direction direct to the road and to the road via the rear of the building. Signage to be the same size as exit signs required by Clause E4.5 of the BCA and AS 2293.1-1998.	Electrical contractor
11 – Signage	Exit and directional signage is to be provided in accordance with BCA Clauses E4.5 and NSW E4.6 and AS/NZS 2293.1-1998.	Electrical contractor



Item	Description	Relevant Party(s)
12 – Drencher system requirements	Drencher systems are to comply with Sections 3 (Water Supplies), 4 (Pumpset Installations), 5 (System Components) and 6 (Piping) of AS 2118.2-1995, unless specified differently below. • Drenchers are to be mounted in a horizontal position adjacent to the glazing at the top centre of the window assembly. Drenchers are NOT to be ceiling mounted. The centreline of the drenchers' deflector is to be located 50 mm below the top window frame and the deflector positioned 13 mm from the glass. • The average density of discharge over the protected area is to be no less than 5L/min/m^2. • The drencher system is to incorporate glass bulbs such that the drenchers are activated individually. A deluge system is not required. All drencher heads must be fast response heads with an RTI no greater than $50m^{1/2}s^{1/2}$ and an activation temperature of 68°C. • Horizontal mullions are NOT permitted, as this will restrict the even distribution of water down the full face of the glass. • The pressure of the drencher system is to be designed for simultaneous operation with the sprinkler system. • The drencher system is to be designed to allow for all drenchers corresponding to the required design area of operation for the sprinkler system, activating simultaneously with a water flow as above. • A single drencher shall not be used to protect glazing wider than 3,000 mm. A multi-drencher system can be used to protect glazing wider than 3,000 mm if the sprinklers are spaced at least 2,000 mm apart. • A single drencher shall not be used to protect glazing where a vertical mullion has a depth greater than 25 mm. • The spacing between sprinklers need not be limited if the vertical mullion has a depth of at least 50 mm. • The maximum pressure on any wall wetting drencher is to comply with Clause 3.5 of AS 2118.2-1995. Coordination between hydraulic engineer and architect is required such that the glass can withstand the highest pressure from the drencher.	Sprinkler contractor
13 – Management	The corridor outside Stair 1 and the lift lobby, on both floors, are to be kept totally clear of combustible items such as furniture, display cases and decorations.	Management

Item	Description	Relevant Party(s)
14 – Maintenance	All active fire services in the building are to be maintained in accordance with the AS 1851-2005 suite of standards and AS/NZS 2293.1-1998.	Maintenance contractor
15 – Annual fire safety statement	The glazing, drencher system, fast response heads and this Fire Safety Engineering Report are to be specifically listed on the Annual Fire Safety Statement.	Builder

1.4 Assumptions & Limitations

(i) BCA Compliance

The primary assumption of this report is that, with the exception of the identified BCA non-compliance addressed by the fire engineering analysis herein, the remainder of the fire safety design for the building complies with the DTS Provisions of the BCA for fire safety.

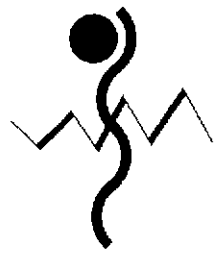
(ii) Property Protection

The design proposed herein complies with the Performance Requirements of the Building Code of Australia, 2005, which is primarily concerned with life safety, protection of neighbouring properties and fire brigade intervention.

Unless specifically requested by the client or stated in our report, issues above and beyond the BCA requirements, as described above, have not been considered. This may include, but not be limited to, considerations of business continuance, disabled egress and extent and availability of insurance. Similarly, multiple arson attack, malicious acts, acts of terrorism and the resulting impact of fires on the building performance has not been addressed within this report as they are not considered to be a reasonable scenario in this instance.

(iii) Generally

It is assumed that the schedule of works, limitations and assumptions of this report are read and understood. The author of this report should be contacted if there are any queries in regards to the content. Holmes Fire & Safety takes no responsibility for the misinterpretation by others.



2 BUILDING DETAILS

2.1 Description of Building

An existing two-storey building, known as the Mona Vale Conference Centre, is located at 33 Bassett Street, Mona Vale, bounded by Bassett Street to the north and existing residential developments to the south, east and west. An in-ground swimming pool, outdoor carpark, open-deck carpark (separate building) and tennis court (to be upgraded to an outdoor activities area) are also provided within the site.

Alterations, additions and a change of use are proposed; such that the development will be converted to a Class 9c aged care facility. The additions are limited to a new office and provision of a lift; and the alterations primarily consist of the conversion of existing assembly rooms to a number of Sole Occupancy Units (SOUs) and the removal of the swimming pool.

The Ground Floor of the aged care facility will contain residential accommodation in the form of single and double bed SOUs, offices, lounge and dining rooms, kitchen facilities, plant rooms, storerooms and sanitary facilities. The Second Floor will contain single and double bed SOUs, lounge and dining rooms, storerooms and sanitary facilities.

The Ground Floor and First Floor will occupy an area of approximately 1,370 m^2 and 1,450 m^2 respectively.

The construction of the existing building is essentially double brick with some external portions timber clad, concrete floors, plasterboard ceilings for the majority of the Ground Floor with some areas containing wooden ceilings, fire rated ceiling to the First Floor and a timber trussed roof with non-combustible roof lining. Two fire-isolated stairways serve the First Floor, both of which discharge directly to outside. A non-fire-isolated stairway also serves the First Floor which discharges directly to outside. All existing SOUs are provided with fire rated doors fitted with self-closing devices. Fire hydrants, fire hose reels, portable extinguishers, emergency lighting, exit signage and a thermal detection system serve the building.

2.2 Building Code of Australia Description Summary

The general description of, and subsequent requirements for, the building under the current DTS provisions of the BCA are as indicated in the table hereunder.

Table 2.1 BCA General Description & Requirements

BCA Clause	Description or Requirement
A1.1 Effective Height	Less than 25 metres
A3.2 Classification	Class 9c (aged care) with separate Class 7a (carparking)
C1.2 Rise in Storeys	2, with 2 storeys contained The open-deck carpark is a separate 1 storey building.
C1.1 Type of Construction required	Type C construction
C2.2 Floor Area & Volume Limitations	Class 9c Max. f/area: 3,000 m^2 Max. volume: 18,000 m^3 These size limitations for the fire compartments are not exceeded, based on each storey being a separate fire compartment.

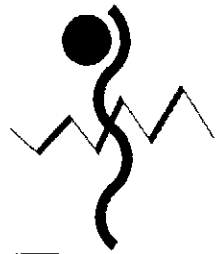
3 BCA REQUIREMENTS

Table 3.1 outlines the issues of non-compliance with the BCA DTS Provisions that are the subject of this report.

Table 3.1 Non-compliance with DTS provisions

Relevant BCA Clause	DTS non-compliance	Alternative Solution	Relevant BCA Performance Requirement	Assessment Method
Specification C1.1	The internal wall bounding the main fire-isolated stairway (Stair 1) is to be provided with a glazed wall in lieu of -/60/60 FRL non-loadbearing construction.	The internal glazed wall is to be of toughened glass, no less than 6 mm thick, protected by a dedicated drencher system.	DP5	The Alternative Solution is to comply with the BCA by way of BCA Clause A0.5(b)(i) 'complies with the Performance Requirements'. Assessment is to be via BCA Clause A0.9(b)(ii), 'other Verification Methods', by way of qualitative assessment.

Relevant BCA Clause	DTS non-compliance	Alternative Solution	Relevant BCA Performance Requirement	Assessment Method
Clause C3.8(b)	The external glazed wall of Stair 1 is within 6m of the glazed lift lobby.	Fire doors are to be provided to the lift at each level. Lift lobby is to be kept clear of storage or any other combustible materials.	CP8	The Alternative Solution is to comply with the BCA by way of BCA Clause A0.5(b)(i) 'complies with the Performance Requirements'. Assessment is to be via BCA Clause A0.9(b)(ii), 'other Verification Methods', by way of qualitative assessment.
Clause C3.8(b)	First Floor office window is within 6m of the external glazed wall of a fire-isolated exit. Protection not provided to opening within fire-isolated exit.	Office window is to be fixed closed and internally sprinkler protected by a dedicated wall-wetting sprinkler.	CP8	The Alternative Solution is to comply with the BCA by way of BCA Clause A0.5(b)(ii) 'is shown to be at least equivalent to the Deemed-to-Satisfy Provisions'. Assessment is to be via BCA Clause A0.9(c), 'Comparison with the Deemed-to-Satisfy Provisions.'



Relevant BCA Clause	DTS non-compliance	Alternative Solution	Relevant BCA Performance Requirement	Assessment Method
Clause D1.7(c)	Most direct path of travel to the road from fire-isolated Stair 2 and Stair 3 requires occupants passing within 6m of unprotected openings.	Egress signs to be provided to direct occupants away from openings and around rear of building via the alternative path in the event of an uncontrolled fire adjacent to the affected stair. Residential sprinkler system to be provided throughout the building.	DP5	The Alternative Solution is to comply with the BCA by way of BCA Clause A0.5(b)(ii) 'is shown to be at least equivalent to the Deemed-to-Satisfy Provisions'. Assessment is to be via BCA Clause A0.9(c), 'Comparison with the Deemed-to-Satisfy Provisions.'

4 PRELIMINARY FIRE SAFETY REVIEW

4.1 Identification of Hazards

Areas of hazard with respect to possible ignition sources in an elderly care environment may exist with portable heating devices, smoking areas, kitchen areas, and other areas where gas or electrical appliances are used. Concealed roof spaces where electrical cabling is run are also areas where there is a potential for fire.

The main areas of risk are where people reside and where ignition sources are also present, such as lounge areas, kitchens and individual bedrooms.

England et al[2], provides statistics on the frequency of fires in aged accommodation. The frequency is reported at 0.3 fires/year/facility. The approximate number of fatalities or injuries per facility per year was estimated to be 0.0124 (i.e. more than 1 fire related injury/year/hundred facilities).

4.2 Ignition Sources

Based on data gathered by the NSW Fire Brigades[3], the form of material first ignited is given in Table 4.1 below.

Table 4.1 Form of Material First Ignited in Aged Care Facilities.

Material	Percentage of Incidents
Cooking materials	25%
Bedding/mattress/pillow	7%
Electrical wires/cables/equipment	21%
Fabric/curtains/clothing	8%
Furniture	3%
Rubbish/waste	5%
Other	31%

From the above it can be seen that cooking materials and electrical wires/cables and equipment make up close to half of the materials first ignited. However fires involving bedding/mattress/pillow fires have been shown in fire incidents to be much more likely to be life threatening, therefore presenting an important source of fire although only contributing 7% of reported fires in aged care facilities.

There is a range of potential ignition sources for the facility, due to the large variety of activities that will be carried out in providing residential care on a commercial basis.

The requirement for catering, heating/cooling, electrical services and other building services involves the provision of a range of equipment that may be the source of heat and/or fire. Cooking facilities introduce the potential for cooking related ignition sources, whilst electrical and air-conditioning/heating services introduce the risk of electrical failure/overheating and direct contact of heating devices with combustibles within rooms.

4.3 Materials of Construction & Building Design

It is not considered that materials of construction or the building design will contribute to the fire load above that of a DTS compliant building development.

4.4 Contents & Activities

The contents in the building are no greater than for a DTS compliant building. The everyday activities carried out by the occupants present a minimal fire risk to the building.

4.5 Sprinkler System

According to the Fire Safety Engineering Guidelines[4] it can be assumed that the probability for a sprinkler system to activate is 95% for a flaming non flashover fire and 99% for a flashover fire. The probability of sprinkler control after sprinkler activation is estimated to 99%.

Data for reliability has also been compiled by Johansson[5] from a range of sources. Probabilities for a combination of the sprinkler system to activate and thereafter control or extinguish the fire were recorded. This data is summarised in Table 4.2 below.

Table 4.2 – Reliability data for sprinkler systems (Johansson)

Source	Time Period	Reliability (%)
Industrial Risk Insurers	1975-1992 full sprinkler protection	98
NFPA	1925-1969	96.2
Department of Energy (DOE)	1952-1980	98.2
Australian and New Zealand data	1886-1968	99.8
Australian and New Zealand data	1968-1977	99.3
England (fire and loss statistics)	1965-1969	91.8
England (fire and loss statistics)	1966-1972	78.2

Similar data was also presented by Edward and Budnick[6] as summarised in Table 4.3 below for general occupancies.

Table 4.3 – Reliability data for sprinkler systems (Edward and Budnick)

Reference and Publication Year	Reliability (%)
Building Research Est., 1973	92.1
Miller, 1974	95.8
Miller, 1974	94.8
Powers, 1979	96.2
Richardson, 1985	96
Finucane et al, 1987	96.9-97.9
Maryatt, 1988	99.5

Statistical analysis of sprinkler protection records in Australia and New Zealand between 1886 and 1986 has been undertaken by Marryatt[7].

With regards to health-care buildings (comprising hospitals), the statistics indicate that 100% of 157 fires were controlled by the successful operation of the installed sprinkler systems. The statistics indicate:

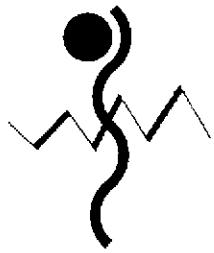
- 84 % of fires were controlled by the activation of 1 sprinkler head;
- 97 % of fires were controlled by the activation of 2 sprinkler heads;
- 100 % of fires were controlled by the activation of 3 sprinkler heads;

A 100% record of fire control is idealistic, and is probably a consequence of the number of fires that have been recorded in the analysis.

However, in as represented by the above statistics it can be acknowledged that sprinklers have an exceptional record for controlling fires when they are installed and maintained properly, such that they activate successfully and perform as designed in a fire incident.

It is worth noting that the terminology "sprinkler controlled fire" does not mean that the fire has been extinguished. Rather, it means that the fire growth rate and spread has been controlled by the sprinkler activation. This acknowledges the fact that objects in the room may protect the seat of fire, such that the water discharge by the sprinkler system is unable to make direct contact with the combustible fuel surface (these are referred to as shield fires). Such a situation may occur with a fire beneath a table or behind furniture.

According to residential sprinkler research[8], residential sprinkler systems (such as the proposed system) are designed and tested to improve the likelihood of surviving a fire within the room of origin until evacuation is achieved. The Australian residential sprinkler standard (AS2118.4:1995) states that the intention of the document is to provide the requirements for a "life safety sprinkler system". The sprinkler system is designed to prevent fire spread throughout and beyond the room of fire origin – the location of the seat of the fire – with an inherent requirement to limit the fire to a relatively small area (preferably to the item first ignited). As a result, the impact of the fire on the bounding construction of the room of fire origin is expected to be minor, with the temperatures insufficient to cause fire spread to other enclosures.



5 OCCUPANCY PROFILE

Due to the level of care provided at such facilities, the ability of occupants to evacuate themselves range from fully ambulant to non-ambulant with a high reliance on staff to assist in an evacuation.

The building is divided into several smoke compartments which fully comply with the DTS Provisions of the BCA. Therefore, occupants aided by staff are able to evacuate from the building, while passing through smoke zones maintaining separation from the area of fire. The evacuation of occupants is expected to be controlled by staff, therefore building occupants, namely the residents, would be evacuated via the safest route as determined by the staff.

Occupant numbers are as follows, with resident numbers based on number of beds provided and staff numbers provided by Thompson Health Care.

- Ground Floor:
  - Residents – 23
  - Staff – 20
- First Floor:
  - Residents – 43
  - Staff – 10

6 FIRE SAFETY ACCEPTANCE CRITERIA

Table 6.1 describes the acceptance criteria for the fire safety issue to be assessed, being fire isolation of Stair 1.

Where the results of the analysis demonstrate that the acceptance criteria have been met, the Alternative Solution then satisfies the selected Performance Requirement, DP5.

Table 6.1 Acceptance Criteria

Fire Safety Consideration	Acceptance Criteria
Spread of Fire	The spread of fire to exits is avoided, to the degree necessary, equivalent to that provided by a BCA DTS compliant building.
Occupant Safety	That sufficient means of egress and fire safety systems are provided to facilitate occupant egress from the building safely.

7 PROPOSED FIRE SAFETY DESIGN

7.1 Relevant Performance Requirements

Performance Requirement CP8 states:

> *"Any building element provided to resist the spread of fire must be protected, to the degree necessary, so that an adequate level of performance is maintained –*
>
> *(a) where openings, construction joints and the like occur; and*
>
> *(b) where penetrations occur for building services."*

The Guide to the BCA[9] states that CP8 is the Performance Requirement that requires openings and penetrations in building elements to resist the spread of fire. CP8 deals with any opening or penetration within a building element.

Performance Requirement DP5 states:

> *"To protect evacuating occupants from a fire in the building exits must be fire isolated, to the degree necessary, appropriate to –*
>
> *(a) the number of storeys connected by the exits; and*
>
> *(b) the fire safety system installed in the building; and*
>
> *(c) the function or use of the building; and*
>
> *(d) the number of storeys passed through by the exits; and*
>
> *(e) fire brigade intervention."*

The Guide to the BCA[9] states that DP5 is the Performance Requirement for determining when fire-isolated exits are necessary to provide protection for evacuating occupants.

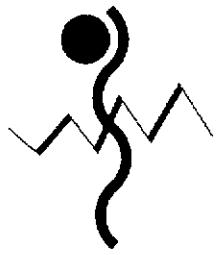
7.2 Fire-Isolation of Stair 1

7.2.1 DTS REQUIREMENTS

Clause D1.3(b) of the BCA states that, for Class 9c buildings, every required exit must be fire-isolated. Table 5 of Specification C1.1 of the BCA, for a Type C aged care building, requires internal walls bounding a non-loadbearing fire-isolated stair to have a -/60/60 FRL.

The Guide to the BCA states that the intent of Clause D1.3 is to indicate when fire-isolated stairways and ramps are required to enable safe egress in case of a fire.

Stairs 2 and 3 in the building are fire-isolated on both levels and discharge directly to the outside at ground level without connecting with the Ground Floor.



Stair 1 connects both levels. The eastern and western internal walls on both levels are of masonry construction and are assumed to achieve a -/60/60 FRL (non-loadbearing). This is based on guidance provided by Ordinance 70, Table 20.10, where it is stated that a non-loadbearing wall constructed of solid pressed clay bricks of 110 mm minimum thickness will achieve a 90 minute fire resistance. The northern internal wall and southern external wall are proposed to be constructed of glazing. The southern glazed wall is not required to have an FRL, as it is external, however the internal glazed wall does require an FRL, hence presenting the DTS non-compliance

7.2.2 ANALYSIS OF THE PROPOSED FIRE SAFETY DESIGN

The internal northern wall is proposed to be constructed of glazing, which will not meet the DTS Provisions for non-loadbearing internal walls bounding a stair required to be fire-isolated of -/60/60 FRL.

The numbers for the FRL requirements of Specification C1.1 of the BCA relate to structural adequacy/integrity/insulation. As the stair is non-loadbearing it is not required to have a structural adequacy rating. Research by the Institute for Research in Construction (IRC) indicates the proposed system will remain intact for at least one hour, thus providing 60 minutes integrity. This means that the stair shaft will be able to resist the spread of smoke and flame for at least one hour.

Insulation means the ability to maintain a temperature on the surface not exposed to fire below the limits specified in AS 1530.4. It is expected that the provision of sprinklers throughout the building and drenchers to the toughened glass wall will reduce the temperature within the stair to less than what would occur if drenchers and sprinklers were not installed.

The National Research Council's IRC is a construction research agency in Canada. The IRC researched the use of dedicated sprinkler systems to protect glazing in fires and provided guidelines to ensure effective protection in different situations.

The IRC developed a protection method involving the use of a dedicated automatic sprinkler system that applies a film of water to the toughened glass. The investigations demonstrated that toughened glass, protected by a dedicated automatic sprinkler system, would remain intact for more than one hour.

The drencher protection of the glass has been designed specifically to protect the glass and mitigate any failure of the glass for all fires for an hour, including a fire directly adjacent to the glass. Therefore it is not expected that the occupants would be subjected to any direct flames. Some radiation however, may occur through the glass.

Tests by Experimental Building Station Department of Housing and Construction[10] showed that less than 10% of the emitted radiation is transmitted through a drencher protected glass assembly. Therefore drencher protected glass will generally provide an acceptable barrier protecting the occupants from flames and radiation.

The building is to be sprinkler protected throughout. According to the CIBSE Technical Memoranda TM19:1995[11] it can be assumed that the activated sprinklers cool most of the smoke layer to below operating temperature of other non-activated sprinklers. With a conventional head an average smoke layer temperature of 100°C can be used for calculations.

The internal glazing bounding Stair 1 (northern wall) is to be toughened glass of no less than 6 mm thickness and is to be supported by non-combustible framework. Horizontal mullions are not permitted within the glazing, as they would prevent the even distribution of water.

The glazing is to be permanently fixed in the closed position with all gaps between the glazing/glazing framework and the adjoining construction to be sealed with a fire-rated sealant. The glazed doors providing access to Stair 1 from the building and the lift lobby are to be toughened glass of no less than 6 mm thickness and are to be supported by non-combustible framework. Gaps between the door and frame are to be no greater than for a DTS compliant fire door (as per AS 1905.1:1997)

The internal glazed wall is to be protected by a dedicated sprinkler system, installed as per the guidelines set out by the Institute for Research in Construction (IRC)[12] based on the results of their research, as listed hereunder, with the exception that fast response sprinklers with an RTI of 50$(m/s)^{½}$ and activation temperature of 68°C are to be used, in lieu of an RTI of 22.7$(m/s)^{½}$ and activation temperature of 74°C.

The requirement for fast response sprinklers (and hence the RTI and activation temperature) is to provide water protection to the toughened glass before the glass reaches a temperature that the application of cold water will cause premature failure due to thermal shock. The delay in activation time of the proposed drencher system is negligible compared to that of the IRC system. It is believed that the RTI and Activation Time for the proposed sprinkler system will provide an adequate level of protection to mitigate thermal shock.

The centreline of the drenchers' deflector is to be located 50 mm below the top window frame and the deflector positioned 13 mm from the glass. Refer to Figure 7.1 below.

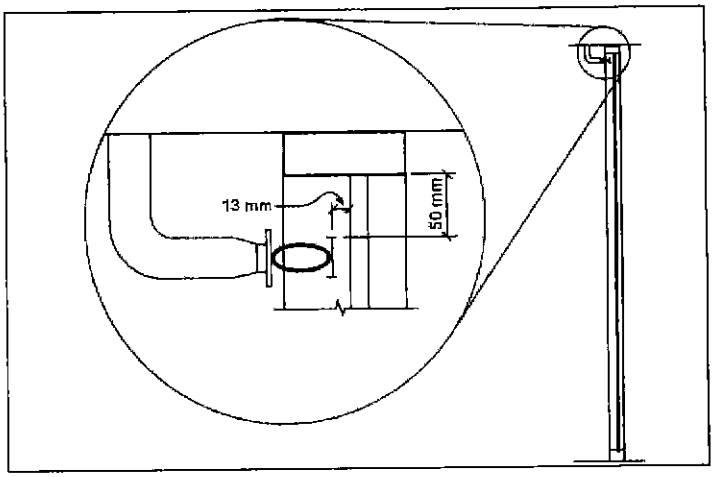


Figure 7.1 – Drencher orientation and location relative to glazing.

A single drencher shall not be used to protect glazing wider than 3,000 mm. A multi-drencher system can be used to protect glazing wider than 3,000 mm if the sprinklers are spaced at least 2,000 mm apart. Refer to Figures 7.2 and 7.3 below.

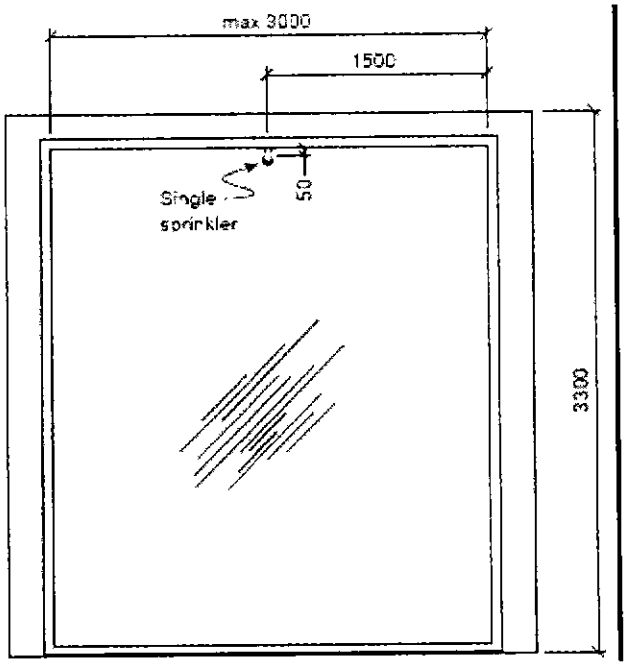


Figure 7.2 – Location of drencher in a single drencher system.

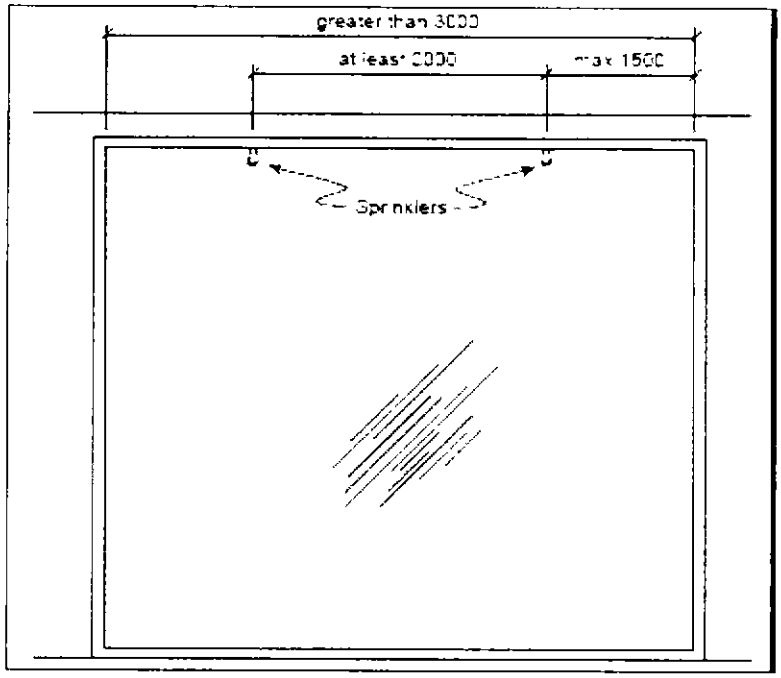


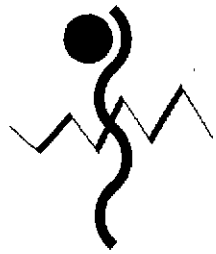
Figure 7.3 – Location of drenchers in a multi-drencher system without the use of vertical mullions.

Based on the provision of drenchers, as detailed above, to toughen glazing, and that the area surrounding Stair 1 is to be kept clear of combustibles, it is considered unlikely that a fire could occur of such a size that would endanger occupants. Irrespective of this however, scenarios will be considered where a fire does occur adjacent to Stair 1.

Should a fire occur in the First Floor corridor and be of a temperature that could endanger occupants within the stair, it is unlikely that occupants would be able to pass the fire to reach the stair in the first instance. In this scenario, occupants can access alternative fire-isolated exits.

Should a fire occur in the Ground Floor corridor and be of a temperature that could endanger occupants, occupants within the stair, if unable to reach their final exit, will be able to return up the stair and use an alternative fire-isolated exit.

It is envisaged that staff would be managing any evacuation and assisting residents. If they believe that the temperature within the stair could endanger the residents they will be able to evacuate via alternative exits that are approximately 40m from Stair 1. Note that travel distances and distances between exits comply with the DTS Provisions.



7.2.3 SUMMARY

The proposed stair construction is considered to provide adequate protection from the spread of smoke and fire from the building to the stairs.

Given the above results, the intent of Clause 2.7 of Specification C1.1 of the BCA has been satisfied and compliance with Clauses A0.5(b)(i) and A0.9(b)(ii) has been demonstrated. As such it is considered that Performance Requirement DP5 of the BCA has been satisfied.

Table 7.1 Satisfaction of Performance Requirement DP5

PERFORMANCE REQUIREMENT	ALTERNATIVE SOLUTION
To protect evacuating occupants from a fire in the building exits must be fire isolated, to the degree necessary, appropriate to-	
(a) The number of storeys connected by the exits; and	Stair 1 connects two storeys. Exit from the stair is at Ground Floor direct to the outside. Two other fire-isolated stairs that discharge directly to the outside are also available.
(b) The fire safety system installed in the building; and	A sprinkler system is to be installed throughout the building. The system would be expected to reduce the rate of fire spread (e.g. it will either extinguish the fire or reduce its growth rate), therefore allowing greater evacuation times. A separate drencher system is to be provided to protect the internal toughened glass wall of Stair 1.
(c) The function or use of the building; and	The building is a Class 9c aged care building with a full-time staff presence.
(d) The number of storeys passed through by the exits; and	Stair 1 passes through two storeys and discharges to outside at Ground Floor. The stair is to be fire-separated from the surrounding areas on both floors by -/60/60 FRL construction (non-loadbearing) to the sides and drencher protected toughened glazing internally.

PERFORMANCE REQUIREMENT	ALTERNATIVE SOLUTION
(e) Fire brigade intervention.	Solution does not rely on fire brigade intervention.

7.3 Openings in Fire-Isolated Exits

7.3.1 DTS REQUIREMENTS

Clause C3.8(b) of the BCA states that;

> *"a window in an external wall of a fire-isolated stairway, fire-isolated passageway or fire-isolated ramp must be protected in accordance with C3.4 if it is within 6 m of, and exposed to, a window or other opening in a wall of the same building, other than in the same fire-isolated enclosure."*

The western glazed wall of the lift lobby is within 6m of the external southern glazed wall of Stair 1. As these areas are in separate fire-isolated enclosures, the southern glazed wall of Stair 1 is be required by the DTS provisions to be protected in accordance with Clause C3.4.

Existing windows in the external southern wall of the building are within 6m of Stair 1. These windows are to be either removed and bricked in (Ground Floor) or protected (First Floor).

7.3.2 ANALYSIS OF THE PROPOSED FIRE SAFETY DESIGN

The Guide to the BCA[9] states that the intent of Clause C3.8 is to maintain the integrity of a fire-isolated exit and to protect people using fire-isolated exits by providing adequately protected door and window openings. C3.8(b) only applies to a window which could expose an evacuating person or fire fighter to radiant heat from a fire in the building.

By removing or protecting windows in the external walls of the building that are within 6m of Stair 1 the integrity of the exit is maintained as the stair is not exposed to openings that could spread fire from the building to the stairway.

7.3.2.1 Lift Lobby

Stair 1 is exposed to openings from the lift lobby on each level. The lift lobby is to be separated from the stair by -/60/30 fire doors at both levels and so is a separate fire-isolated enclosure.

The lift is enclosed in concrete block walls that are to comply with BCA Clause C2.10, with a bounding construction having a 120/120/120 FRL (including the internal portion of the wall within the lift lobby) and -/60/- fire doors that comply with AS 1735.11. These doors are to remain closed except when discharging or receiving passengers or goods.

By enclosing the lift in a fire rated shaft, inclusive of fire rated lift doors, and maintaining the lift lobby free of combustibles, it is considered that the lift lobby glazing will provide an adequate level of performance to protect the occupants using Stair 1.

The lift lobby is an area of only 5 m^2 and is anticipated to be needed to remain free of items located on the floor to enable unimpeded access. The inherent fire load in this area is therefore likely to be minimal, however management procedures are to be instigated to ensure no items are stored in the lobby. The risk of fire spread via the lift shaft is reduced as -/60/- FRL lift doors are to be installed at each level.

7.3.2.2 First Floor Office

The First Floor office adjacent to Stair 1 will retain the existing window so as to provide natural lighting. Clause C3.8(b) of the BCA requires if an opening is located within 6m of an opening within a fire-isolated exit, then the opening within the fire-isolated exit requires protection in accordance with Clause C3.4 of the BCA. Clause C3.4 allows windows to be protected by external wall-wetting sprinklers used with windows that are permanently fixed in the closed position.

The intent of this Clause is to maintain the integrity of the fire-isolated exit thereby protecting evacuating occupants.

Rather than protecting the external side of the fire-isolated exit opening it is proposed to protect the internal side of the office window. The window is to be fixed closed and internally sprinkler protected by a dedicated wall-wetting sprinkler in addition to any sprinklers required to provide coverage in accordance with AS 2118.4.

The provision of sprinklers within the office and the wall-wetting sprinkler to the internal side of the window in the external wall is expected to contain the fire within the area of origin and maintain the integrity of that window. The integrity of the opening within the fire-isolated exit will therefore also be maintained.

By sprinkler protecting the office window internally, it is considered that the risk to occupants using the fire-isolated exit is no greater than in a DTS compliant building where the opening in the fire-isolated exit itself would be externally protected.

7.3.3 SUMMARY

The proposed lift construction, management of combustible materials within the lift lobby and internal protection to the First Floor office window is considered to provide adequate provision to maintain the integrity of the fire-isolated exit.

Given the above results, the intent of Clause C3.8(b) of the BCA has been satisfied and compliance with Clauses A0.5(b)(i) and A0.9(b)(ii) and Clauses A0.5(b)(ii) and A0.9(c) has been demonstrated. As such it is considered that Performance Requirement CP8 of the BCA has been satisfied.

Table 7.2 Satisfaction of Performance Requirement CP8

PERFORMANCE REQUIREMENT	ALTERNATIVE SOLUTION
Any building element provided to resist the spread of fire must be protected, to the degree necessary, so that an adequate level of performance is maintained-	
(a) Where openings, construction joints and the like occur; and	Lift opening to be protected on each floor with -/60/- fire doors that are to remain closed when not in use. Lift lobby to be kept clear of any storage, displays, furniture, etc. First Floor office window to be fixed closed and internally protected by a dedicated wall-wetting sprinkler. Building to be sprinkler protected throughout.
(b)Where penetrations occur for building services.	To comply as required with DTS Provisions.

7.4 Discharge from Fire-Isolated Exits

7.4.1 DTS REQUIREMENTS

Clause D1.7(c) of the BCA states that;

> *"Where travel from the point of discharge necessitates passing within 6 m of any part of an external wall of the same building, measured at right angles to the path of travel, that part of the wall must have –*
>
> *(i) an FRL of at least 60/60/60; and*
>
> *(ii) any openings protected internally in accordance with C3.4."*

The most direct path of travel for occupants discharging from the fire-isolated exits, Stair 2 and Stair 3, is via the driveway to reach the road to the north. The driveway is approximately 5m wide and occupants must pass by unprotected openings in the external wall of the building.

7.4.2 ANALYSIS OF THE PROPOSED FIRE SAFETY DESIGN

The requirement for the protection of openings is independent of the fire safety systems provided in the building. The subject building is provided with a residential sprinkler system throughout. As discussed in Section 4.5, sprinkler systems in aged care buildings have a high reliability of activation and fire control.

In a sprinkler protected building flashover is not expected as sprinklers are designed to operate while the fire is small enough to be controlled or extinguished with a moderate amount of water. A residential sprinkler system is designed to limit the fire to a relatively small area (preferably to the item first ignited). As a result, the impact of the fire on the bounding construction of the room of fire origin is expected to be minor. This considered to apply to the openings as well.

With sprinkler activation, direct flame impingement on occupants passing the windows is considered unlikely. The radiant heat emitting from the openings is not considered to be of a life threatening value.

In the unlikely event of sprinkler failure and high temperatures or flames emitting from the windows between occupants discharging from the fire stair and the road via the most direct path, an alternative route is available. Signage is to be located on the fence opposite Stair 2 and Stair 3 across the driveway indicating egress directly to the road or alternatively via the rear of the building to the other side and then to the road, as shown in Figure 7.1 below. Signage to be the same size as exit signs required by Clause E4.5 of the BCA and AS 2293.1-1998.

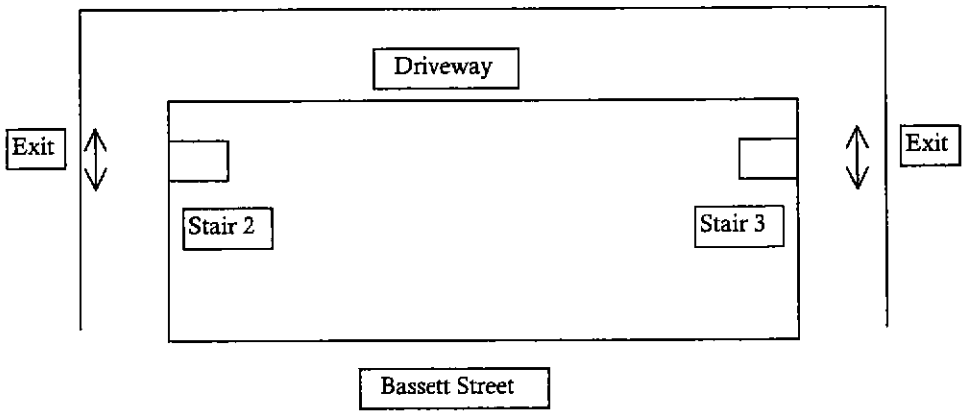


Figure 7.1 Exit Signage

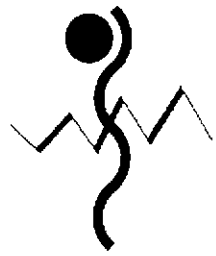
Evacuation will be controlled by staff. Staff will be familiar with the building and aware of the evacuation routes. In the unlikely event that sprinklers do not operate, a fire is located in a room adjacent to the stair and the fire is likely to threaten passing occupants, staff can guide residents around the rear of the building (along open space) to the road on the other side of the building.

Although the most direct path to the open road passes within 6m of openings in the external wall of the building, an alternative path of travel is available that does not require occupants passing within 6m of openings within the same room.

7.4.3 SUMMARY

The proposed egress options are considered to provide adequate egress facilities for occupants using Stair 2 and 3 to exit from the building.

Given the above results, the intent of Clause D1.7(c) of the BCA has been satisfied and compliance with Clauses A0.5(b)(ii) and A0.9(c) has been demonstrated. As



such it is considered that Performance Requirement DP5 of the BCA has been satisfied.

Table 7.1 Satisfaction of Performance Requirement DP5

PERFORMANCE REQUIREMENT	ALTERNATIVE SOLUTION
To protect evacuating occupants from a fire in the building exits must be fire isolated, to the degree necessary, appropriate to-	
(a) The number of storeys connected by the exits; and	Stair 1 connects two storeys. Exit from the stair is at Ground Floor direct to the outside. Two other fire-isolated stairs that discharge directly to the outside are also available.
(b) The fire safety system installed in the building; and	A sprinkler system is to be installed throughout the building. The system would be expected to reduce the rate of fire spread (e.g. it will either extinguish the fire or reduce its growth rate), therefore allowing greater evacuation times. A separate drencher system is to be provided to protect the internal toughened glass wall of Stair 1.
(c) The function or use of the building; and	The building is a Class 9c aged care building with a full-time staff presence.
(d) The number of storeys passed through by the exits; and	Stair 1 passes through two storeys and discharges to outside at Ground Floor. The stair is to be fire-separated from the surrounding areas on both floors by -/60/60 FRL construction (non-loadbearing) to the sides and drencher protected toughened glazing internally.
(e) Fire brigade intervention.	Solution does not rely on fire brigade intervention.

8 REPORT BASIS INFORMATION

The report is based on the following:

(i) BCA report by Holmes Fire & Safety, dated 21st February 2005, outlining BCA Deemed-to-Satisfy non-compliance;

(ii) Architectural drawings, prepared by Machon Paull Consultancy Pty Ltd and as follows:

Table 8.1 Referenced architectural drawings

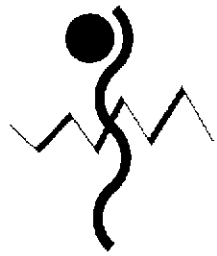
Dwg no.	Title	Date	Issue
WD-01	Site Plan	28/9/05	A
WD-02	Ground Floor Plan	28/9/05	H
WD-03	First Floor Plan	28/9/05	G

9 CONCLUSION

This report has assessed the provision of fire safety at Mona Vale Nursing Home, located at 33 Bassett Street, Mona Vale, in relation to the fire-isolation of Stair 1, the protection of openings in fire-isolated exits and the discharge of the fire-isolated Stair 2 and 3 that necessitates travel within 6m of unprotected openings.

The objective for the design, Performance Requirements CP8 and DP5 of the Building Code of Australia, has been satisfied. In order that the building design can satisfy the assumptions made in this analysis, the items listed in the Schedule of Works section above are to be carried out in the building.

Where building alterations or a change of occupancy occurs, subsequent to the measures mentioned above being provided, the validity of this fire safety engineering analysis may be compromised – further analysis will be required.



10 REFERENCES

1 Australian Building Codes Board (ABCB), *BCA 2005 Class 2 to 9 Buildings*, Australian Building Codes Board, Canberra, Australia, 2005.

2 England et al, *Fire Risk Management for Buildings with Aged Accommodation*, Warrington Fire Research Australia Pty Ltd.

3 New South Wales Fire Brigades (NSWFB), *Annual Statistical Report 2001/2002 incorporating a Ten Year Review 1989/90 to 1998/99*, ISSN 1035 9605 New South Wales Fire Brigades, 2003.

4 Australian Building Codes Board (ABCB), *Fire Safety Engineering Guidelines edition 2001*, Australian Building Codes Board, Australia, 2001

5 Johansson H, Osäkerheter i varibaler vid riskanalyser och brandteknisk dimensionering (Swedish) (Uncertainties for variables for risk analysis and fire safety engineering), Report 3105, Department of Fire Safety engineering, Lund University, Lund 1999.

6 Edward K, Budnick P.E., *Sprinkler System Reliability*, published in Fire Protection engineering, Winter 2001.

7 Marryatt, H. W., *Fire: A Century of Automatic Sprinkler Protection in Australia and New Zealand 1886-1986*, 1988.

8 Madrzykowski, D., Fleming, R. P., *Review of Residential Sprinkler Systems: Research and Standards*, NISTIR 6941, US Department of Commerce, National Institute of Standards and Technology, Gaithersburg, MD, December 2002.

9 Australian Building Codes Board (ABCB), *Guide to the BCA Class 2 to Class 9 Buildings*, Australian Building Codes Board, Canberra, Australia, 2005.

10 Experimental Building Station, Department of Housing and Construction, TR498, *Water Drenching of Glass to Attenuate Radiant Heat*, July 1983, North Ryde, Australia.

11 CIBSE (the Charted Institution of Building Services Engineers), *Technical Memoranda, Relationships for smoke control calculations TM19:1995*, London 1995.

12 Kim A.K. and Lougheed G.D., *Fire Protection of windows Using Sprinklers*, published by Institute for Research in Construction (IRC), Dec 1997.

MACHON PAULL CONSULTANCY

ARCHITECTS

NORTH ELEVATION - BASSETT STREET

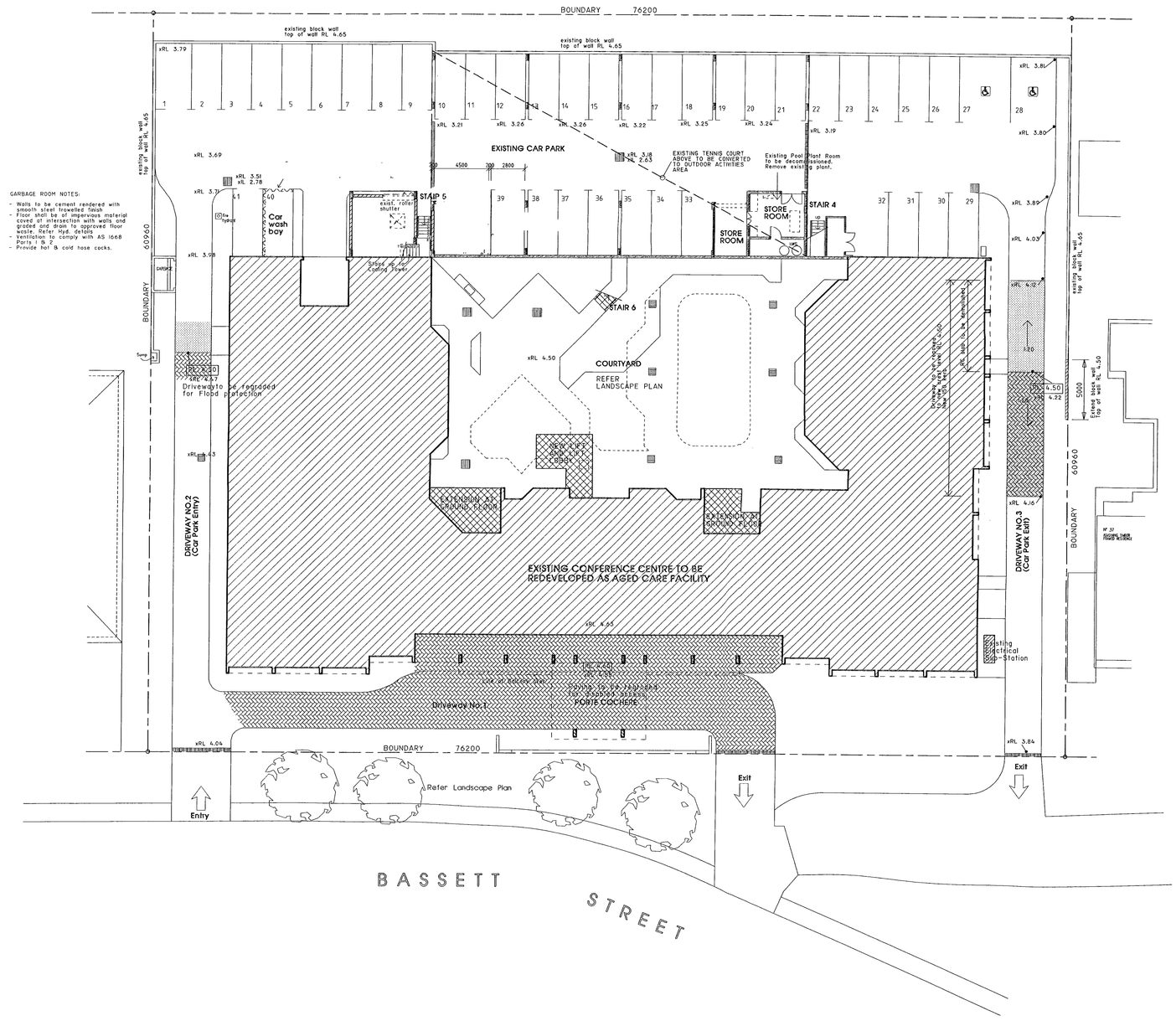
MONA VALE AGED CARE FACILITY

at 25 - 33 BASSETT STREET MONA VALE NSW for THOMPSON HEALTH CARE PTY. LTD.
October 2005

Construction Certificate No: ....

Date Issued: ....

Approved by [illegible] for AE&D Pty Ltd
BSAP Accreditation No. P0024



GARBAGE ROOM NOTES:

- Walls to be cement rendered with smooth steel trowelled finish
- Floor shall be of impervious material coved at intersection with walls and graded and drain to approved floor waste. Refer Hyd. details
- Ventilation to comply with AS 1668 Parts 1 & 2
- Provide hot & cold hose cocks.

AMENDMENTS - ISSUE

28th September 2005 - Client issue
a 29th September 2005 - Construction Certificate issue

LEGEND

RL 2.000 — Finished levels

xRL 2.00 — Existing ground levels

Stormwater pits Refer Hyd.Eng. drawings

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NOTES

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DRAWINGS OF A LARGER SCALE AND OR DETAIL SHALL TAKE PRECEDENCE OVER LESSER SCALE DRAWINGS.

WHERE IN DOUBT ASK THE ARCHITECT.

SITE PLAN AND FLOOR PLAN DIMENSIONS ARE SET-OUT PARALLEL/PERPENDICULAR TO WILLIAM STREET BOUNDARY

REDUCED LEVELS TO AUSTRALIAN HEIGHT DATUM (AHD)

PROJECT

THOMPSON HEALTH CARE MONA VALE AGED CARE FACILITY

25 - 33 BASSETT STREET MONA VALE

MACHON PAULL CONSULTANCY PTY. LTD.

Architecture

ARCHITECTURE PROJECT MANAGEMENT INTERIOR ARCHITECTURE and DESIGN

12 EDEN ST. NORTH SYDNEY NSW 2060
PO BOX 1173 LANE COVE NSW 595
TELEPHONE 9929 7941 FACSIMILE 9929 7652

DRAWING

SITE PLAN

North

SCALE 1 : 200 @ A1

DATE 28th September 2005

DRAWN RC

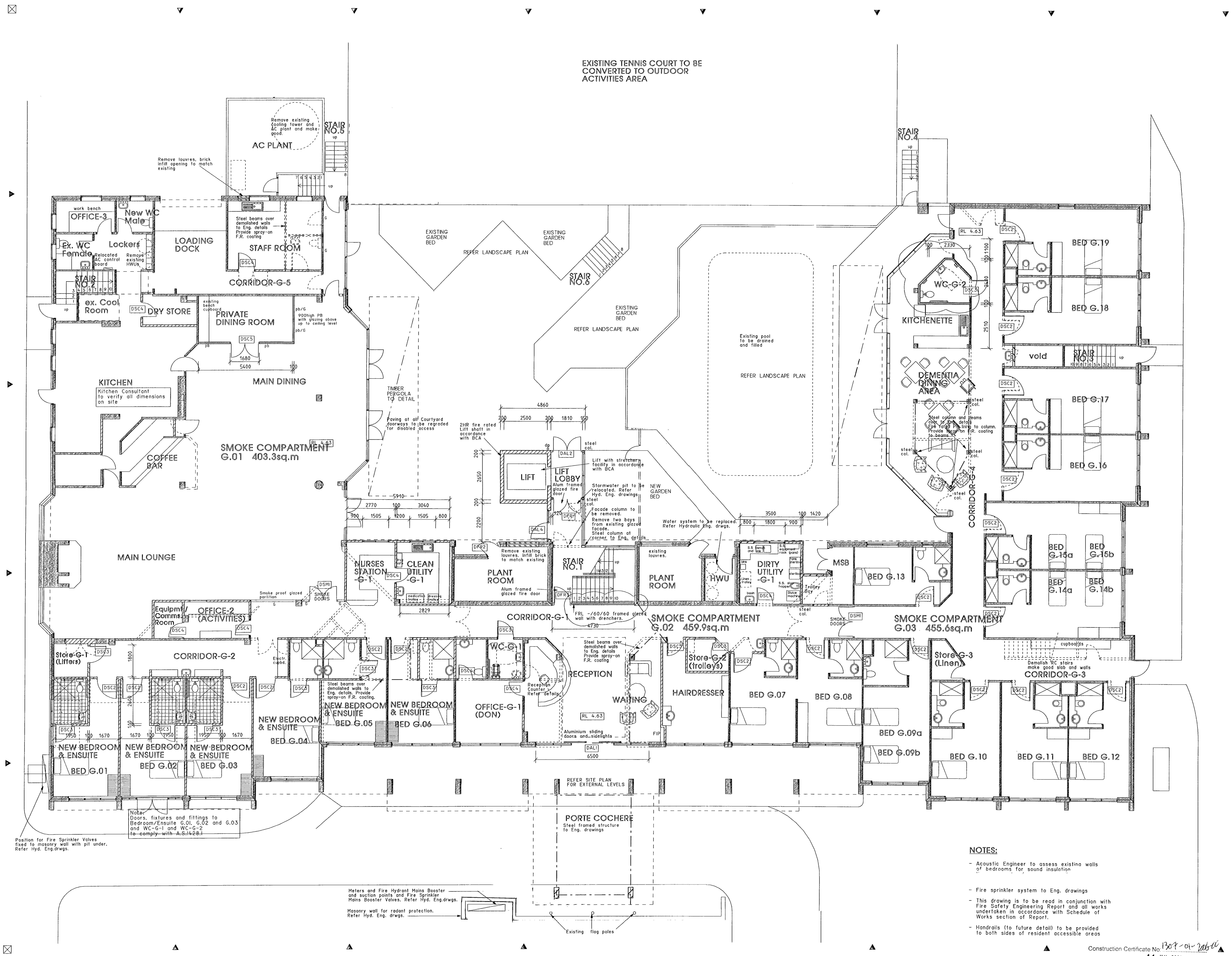
CHECKED PP

WD-01a

Construction Certificate No. 1327-01-2006-CC

Date Issued 11 JUL 2006

Approved by ... for AE&D Pty Ltd
BSAP Accreditation No. P0024



NOTES:

- Acoustic Engineer to assess existing walls of bedrooms for sound insulation
- Fire sprinkler system to Eng. drawings
- This drawing is to be read in conjunction with Fire Safety Engineering Report and all works undertaken in accordance with Schedule of Works section of Report.
- Handrails (to future detail) to be provided to both sides of resident accessible areas

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Date Issued: 11 JUL 2006
Approved by [illegible] for AE&D Pty Ltd
BSAP Accreditation No. P0024

AMENDMENTS - ISSUE

- 28th September 2005 - Client Issue
- a 29th September 2005 - Construction Certificate issue
- b 19th October 2005 - General Revisions
- c 2nd November 2005 - General Revisions
- d 11th November 2005 - General Revisions
- e 8th December 2005 - General Revisions
- f 21st December 2005 -Furniture layout
- g 16th February 2006 - General Revisions
- h 31st March 2006 - General Revisions
- i 6th July 2006 - Fire safety report requirements

LEGEND

=====	Wall to be demolished
	Existing wall to remain
	New concrete block wall plasterboard lined.
	New brick wall rendered finish
pb	New plasterboard lined steel stud partition with acoustic insulation.
xR.L. 0.000	Existing level
R.L. 0.000	New finish floor level
DXXI	Door Type. Refer Door Schedule WD-07
Cp	Carpet
CT	Ceramic tiles
xP	Existing paving tiles
PT	Paving Tiles
Vn	Vinyl sheeting

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REDUCED LEVELS TO AUSTRALIAN HEIGHT DATUM (AHD)

PROJECT

THOMPSON HEALTH CARE MONA VALE AGED CARE FACILITY

25 - 33 BASSETT STREET MONA VALE

MACHON PAULL CONSULTANCY PTY. LTD.
Architecture
ARCHITECTURE PROJECT MANAGEMENT INTERIOR ARCHITECTURE and DESIGN
12 EDEN ST. NORTH SYDNEY NSW 2060
PO BOX 1173 LANE COVE NSW 1595
TELEPHONE 9929 7941 FACSIMILE 9929 7652

DRAWING

GROUND FLOOR PLAN

North

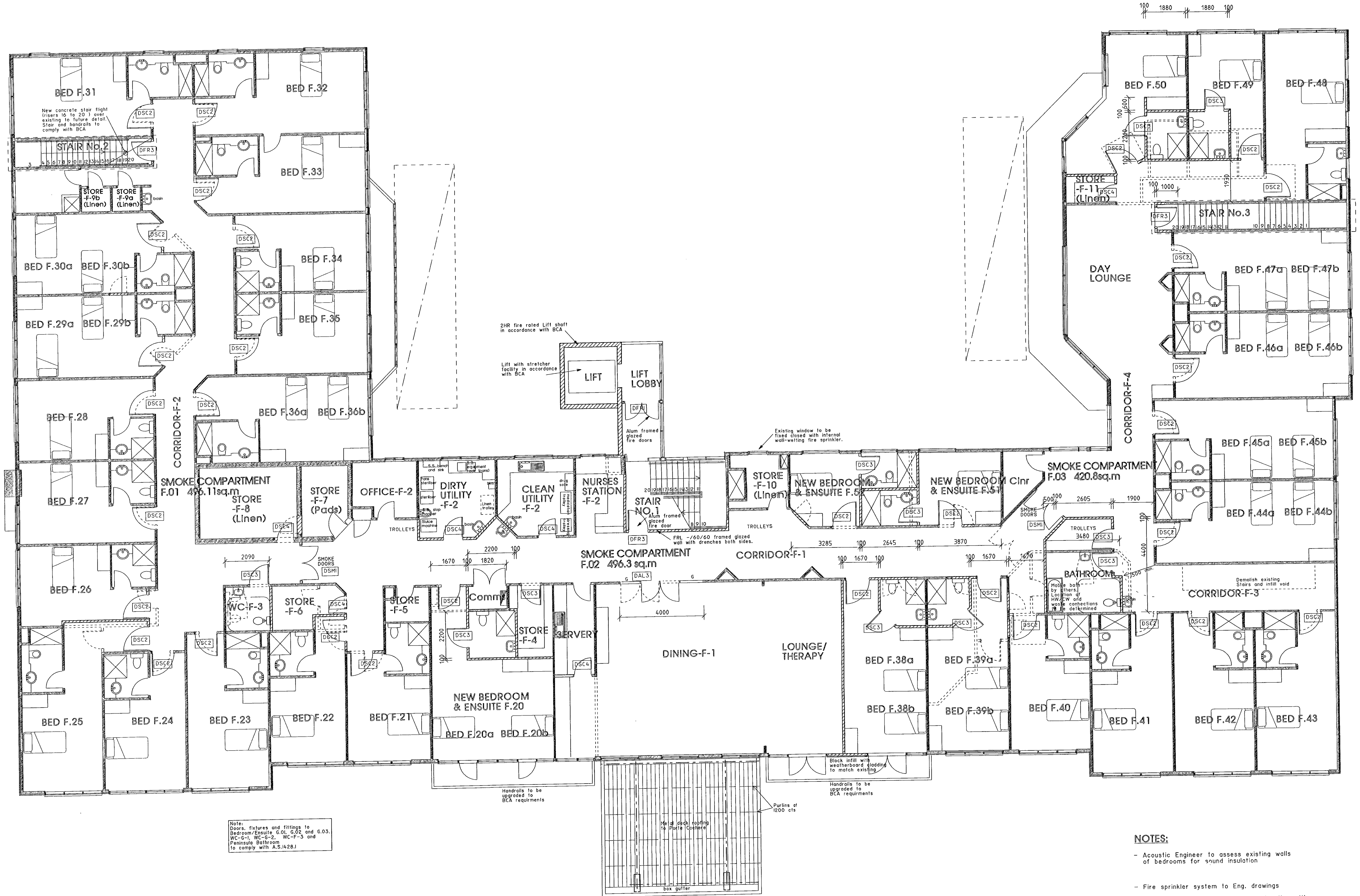
SCALE 1 : 100 @ A1

DATE 28th September 2005

DRAWN RC

CHECKED PP

WD-02i



Note: Doors, fixtures and fittings to Bedroom/Ensuite G.01, G.02 and G.03, WC-G-1, WC-G-2, WC-F-3 and Peninsula Bathroom to comply with A.S.1428.1

AMENDMENTS - ISSUE

	28th September 2005 - Client Issue
a	29th September 2005 - Construction Certificate issue
b	2nd November 2005 - General Revisions
c	8th December 2005 - General Revisions
d	15th December 2005 - General Revisions
e	21st December 2005 -Furniture layout
f	16th February 2006 - Porte Cochere skylights
g	31st March 2006 - General Revisions
h	30 April 2006 - Porte Cochere skylights deleted
i	6th July 2006 - Fire safety report requirements

LEGEND

=====	Wall to be demolished
	Existing wall to remain
	New concrete block wall plasterboard lined.
	New brick wall rendered finish
pb	New plasterboard lined steel stud partition with acoustic insulation.
xR.L. 0.000	Existing level
R.L. 0.000	New finish floor level
DXX	Door Type. Refer Door Schedule WD-07
Cp	Carpet
CT	Ceramic tiles
XP	Existing paving tiles
PT	Paving Tiles
Vn	Vinyl sheeting

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NOTES

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PROJECT

THOMPSON HEALTH CARE
MONA VALE
AGED CARE FACILITY

25 - 33 BASSETT STREET
MONA VALE

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NOTES:

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- Handrails (to future detail) to be provided to both sides of resident accessible areas

Construction Certificate No: 1307-01-2006-cc
Date Issued: 11 JUL 2006
Approved by … for AE&D Pty Ltd
BSAP Accreditation No. P0024

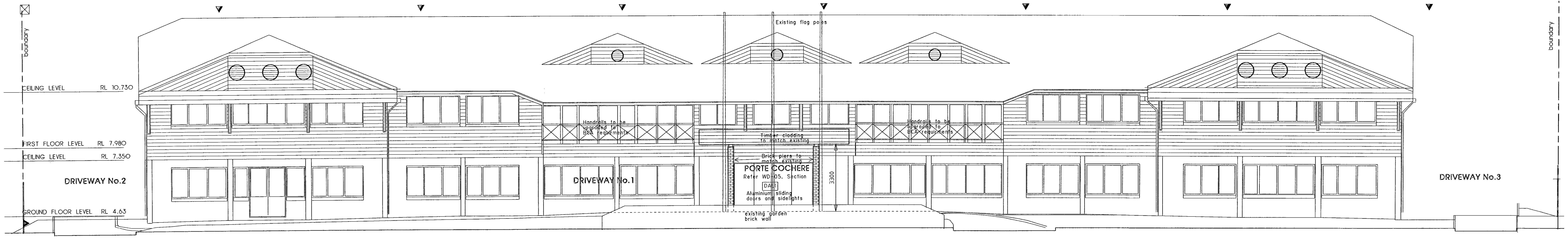
DRAWING

FIRST FLOOR PLAN

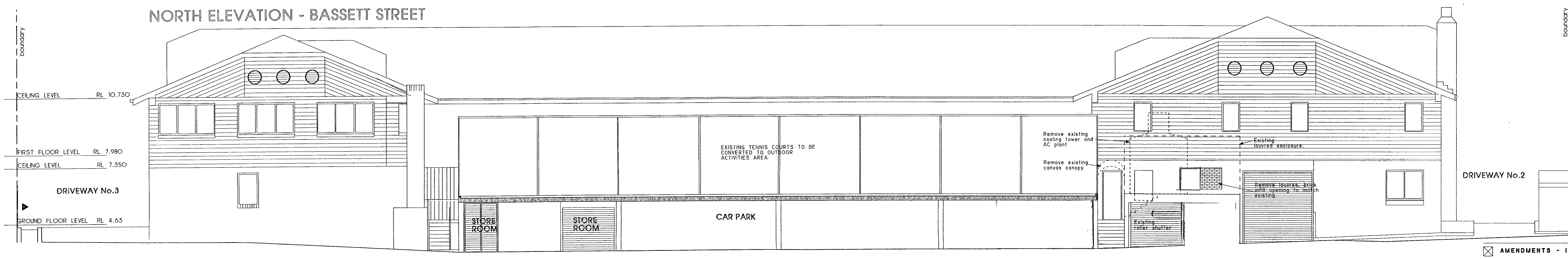
North

SCALE 1 : 100 @ A1
DATE 28th September 2005
DRAWN RC
CHECKED PP

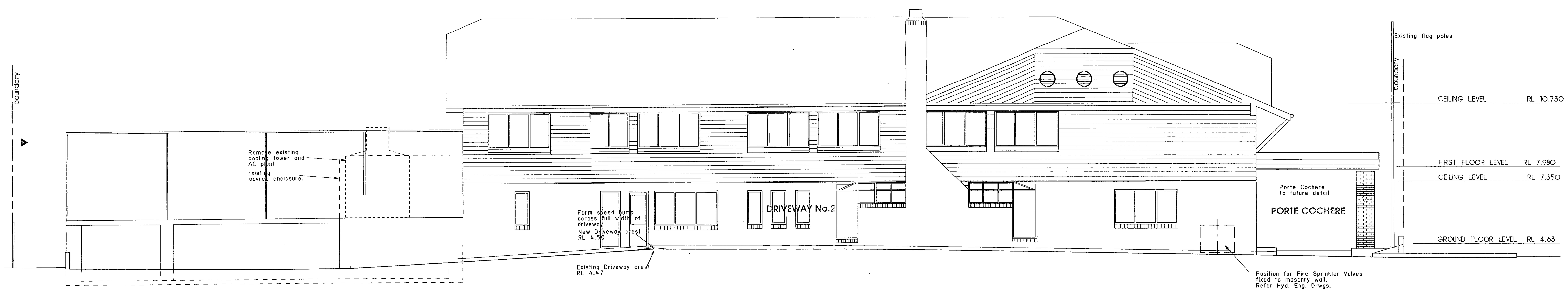
WD-03i


boundary
Existing flag poles
CEILING LEVEL RL 10.730
FIRST FLOOR LEVEL RL 7.980
CEILING LEVEL RL 7.350
GROUND FLOOR LEVEL RL 4.63
DRIVEWAY No.2
DRIVEWAY No.1
PORTE COCHERE
Refer WD-05. Section
Aluminium sliding doors and sidelights
existing garden brick wall
3300
DRIVEWAY No.3

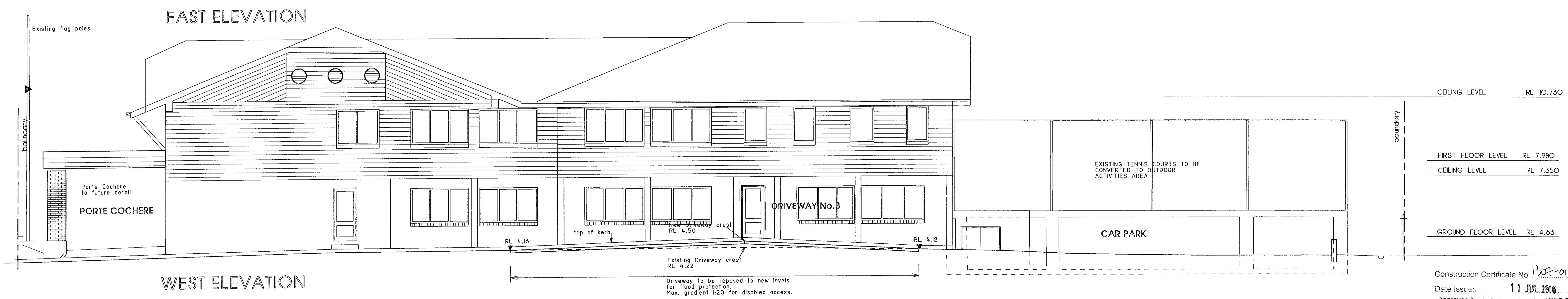
NORTH ELEVATION - BASSETT STREET


boundary
CEILING LEVEL RL 10.730
FIRST FLOOR LEVEL RL 7.980
CEILING LEVEL RL 7.350
GROUND FLOOR LEVEL RL 4.63
DRIVEWAY No.3
EXISTING TENNIS COURTS TO BE CONVERTED TO OUTDOOR ACTIVITIES AREA
Remove existing cooling tower and AC plant
Remove existing canvas canopy
Existing louvred enclosure.
Remove louvres, brick infill opening to match existing
Existing roller shutter
STORE ROOM
STORE ROOM
CAR PARK
DRIVEWAY No.2

SOUTH ELEVATION


boundary
Remove existing cooling tower and AC plant
Existing louvred enclosure.
Form speed hump across full width of driveway
New Driveway crest RL 4.50
Existing Driveway crest RL 4.47
DRIVEWAY No.2
Porte Cochere to future detail
PORTE COCHERE
Position for Fire Sprinkler Valves fixed to masonry wall. Refer Hyd. Eng. Drwgs.
Existing flag poles
CEILING LEVEL RL 10.730
FIRST FLOOR LEVEL RL 7.980
CEILING LEVEL RL 7.350
GROUND FLOOR LEVEL RL 4.63

EAST ELEVATION


Existing flag poles
boundary
Porte Cochere to future detail
PORTE COCHERE
DRIVEWAY No.3
RL 4.16
top of kerb
New Driveway crest RL 4.50
Existing Driveway crest RL 4.22
RL 4.12
Driveway to be repaved to new levels for flood protection. Max. gradient 1:20 for disabled access.
EXISTING TENNIS COURTS TO BE CONVERTED TO OUTDOOR ACTIVITIES AREA
CAR PARK
CEILING LEVEL RL 10.730
FIRST FLOOR LEVEL RL 7.980
CEILING LEVEL RL 7.350
GROUND FLOOR LEVEL RL 4.63

WEST ELEVATION

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Approved by [illegible] for AE&D Pty Ltd
BSAP Accreditation No. P0024

AMENDMENTS - ISSUE

a 29th September 2005 - Construction Certificate issue
b 20th October 2005 - Porte Cochere revised
c 6th July 2006 - Fire safety report requirements

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REDUCED LEVELS TO AUSTRALIAN HEIGHT DATUM (AHD)

PROJECT

THOMPSON HEALTH CARE MONA VALE AGED CARE FACILITY

25 - 33 BASSETT STREET MONA VALE

MACHON PAULL CONSULTANCY PTY. LTD.

Architecture

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INTERIOR ARCHITECTURE and DESIGN
12 EDEN ST. NORTH SYDNEY NSW 2060
PO BOX 1173 LANE COVE NSW 1595
TELEPHONE 9929 7941 FACSIMILE 9929 7652

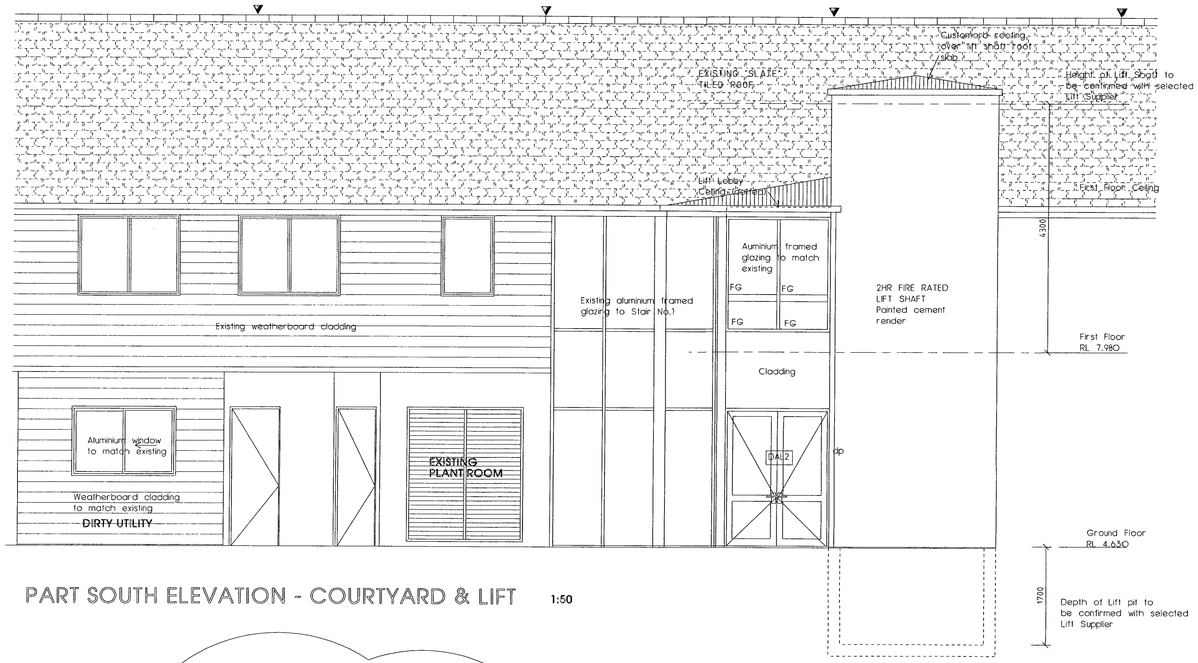
DRAWING

ELEVATIONS

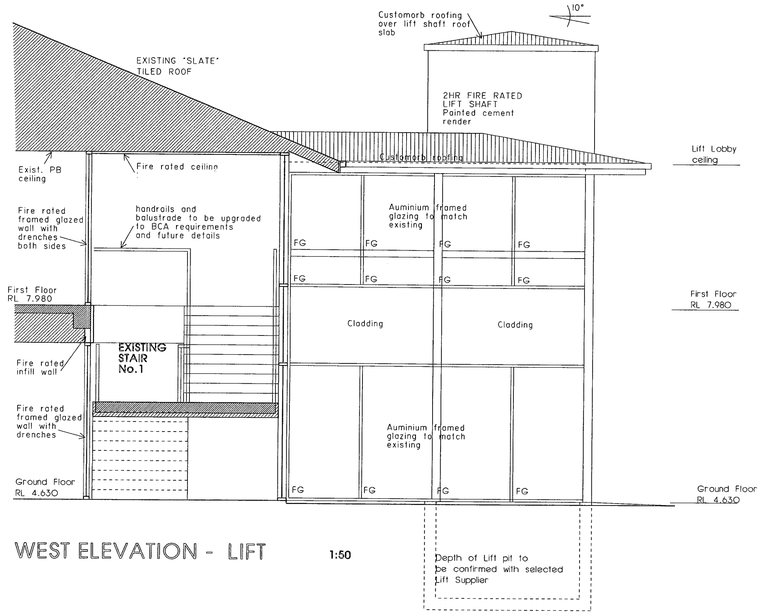
SCALE 1 : 100 @ A1
DATE 28th September 2005
DRAWN RC
CHECKED PP

WD-04c

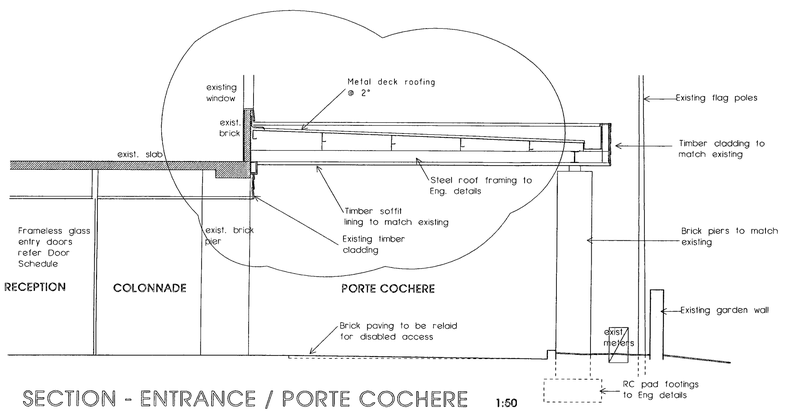
Plot date : 07-11-05



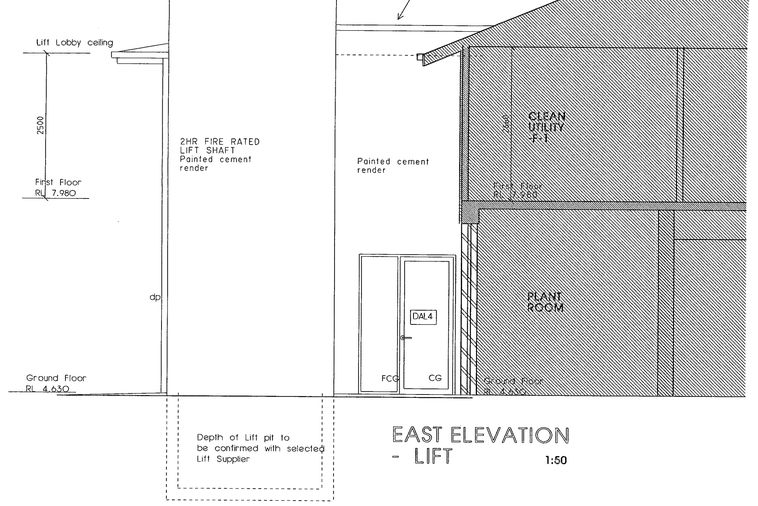
PART SOUTH ELEVATION - COURTYARD & LIFT 1:50



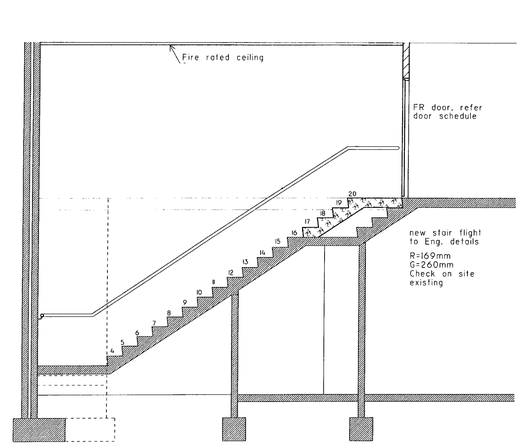
WEST ELEVATION - LIFT 1:50



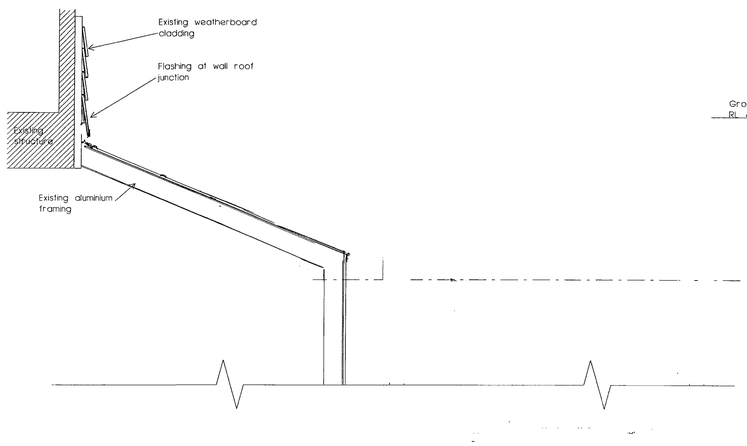
SECTION - ENTRANCE / PORTE COCHERE 1:50



EAST ELEVATION - LIFT 1:50



SECTION - STAIR NO.2 1:50



DETAIL - ROOF 1:20

NOTES:

- Acoustic Engineer to assess existing walls of bedrooms for sound insulation
- Fire sprinkler system to Eng. drawings
- This drawing is to be read in conjunction with Fire Safety Engineering Report and all works undertaken in accordance with Schedule of Works section of Report.
- Handrails (to future detail) to be provided to both sides of resident accessible areas

Construction Certificate No. 1307-01-2006-CC
Date Issued 11 JUL 2006
Approved by ... for AE&D Pty Ltd
BSAP Accreditation No. P0024

AMENDMENTS - ISSUE

28th September 2005 - Client Issue
a 29th September 2005 - Construction Certificate Issue
b 2nd November 2005 - Porte Cochere & Stair sections
C 16th February 2006 - Lift elevations revised/ Porte Cochere skylights
d 30 April 2006 - Porte Cochere skylights deleted
e 6th July 2006 - Fire safety report requirements

LEGEND

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NOTES

BUILDER TO CHECK ALL SITE DIMENSIONS PRIOR TO FABRICATION OF FITMENTS ETC.

WHERE ANY DISCREPANCIES OCCUR BETWEEN FIGURED AND SCALED DIMENSIONS THE FIGURED DIMENSIONS SHALL PREVAIL.

DRAWINGS OF A LARGER SCALE AND OR DETAIL SHALL TAKE PRECEDENCE OVER LESSER SCALE DRAWINGS.

WHERE IN DOUBT ASK THE ARCHITECT.

SITE PLAN AND FLOOR PLAN DIMENSIONS ARE SET-OUT PARALLEL/PERPENDICULAR TO WILLIAM STREET BOUNDARY

REDUCED LEVELS TO AUSTRALIAN HEIGHT DATUM (AHD)

PROJECT

THOMPSON HEALTH CARE
MONA VALE
AGED CARE FACILITY
LOCATED AT
25 - 33 BASSETT STREET
MONA VALE

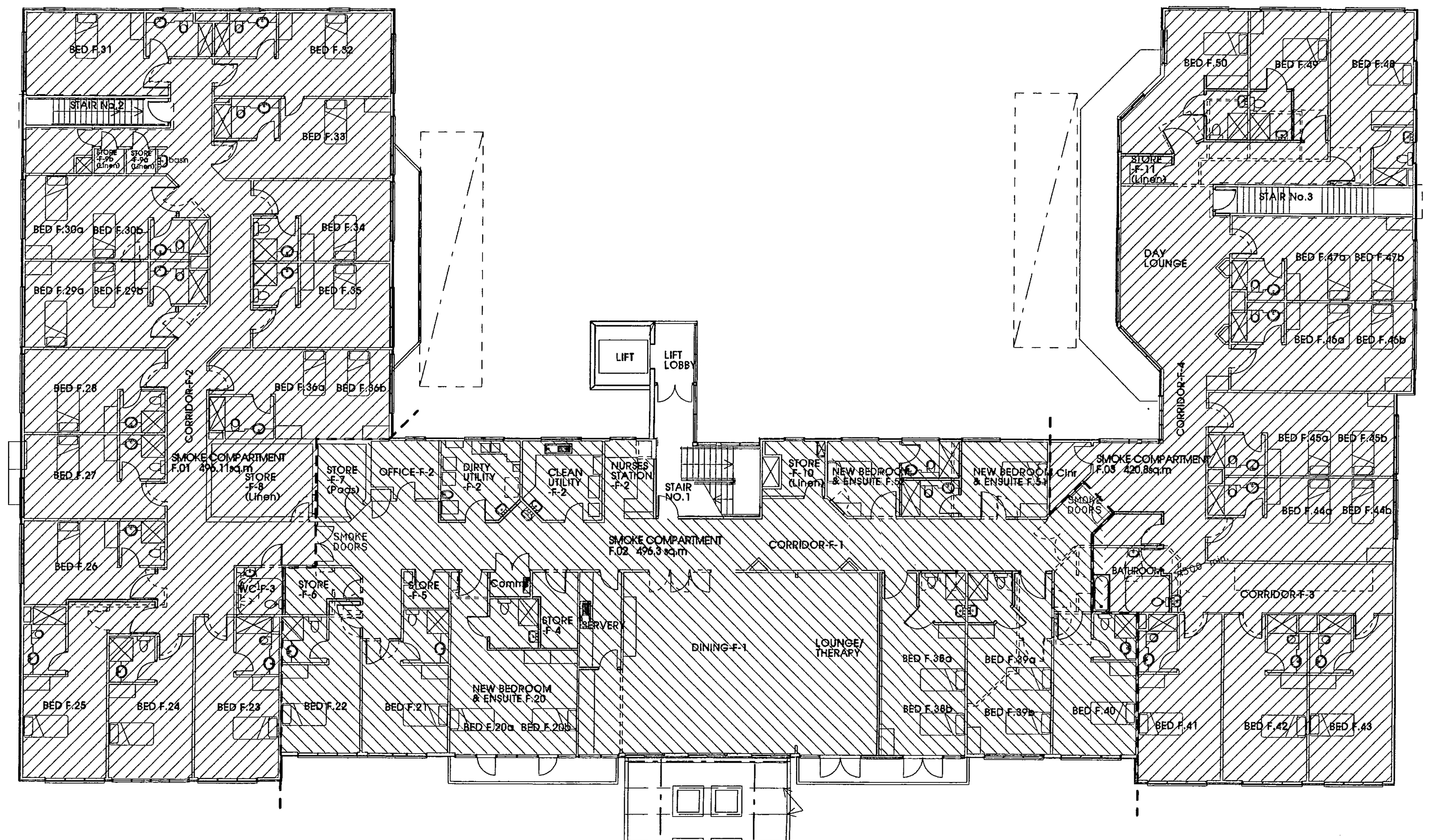
MACHON PAULL CONSULTANCY PTY. LTD.
Architecture
ARCHITECTURE PROJECT MANAGEMENT
INTERIOR ARCHITECTURE and DESIGN
12 EDEN ST., NORTH SYDNEY NSW 2060
PO BOX 1173 LANE COVE NSW 1595
TELEPHONE 9929 7941 FACSIMILE 9929 7652

DRAWING

ELEVATIONS & DETAILS

SCALE As Shown
DATE 19th October 2005
DRAWN RC
CHECKED PP

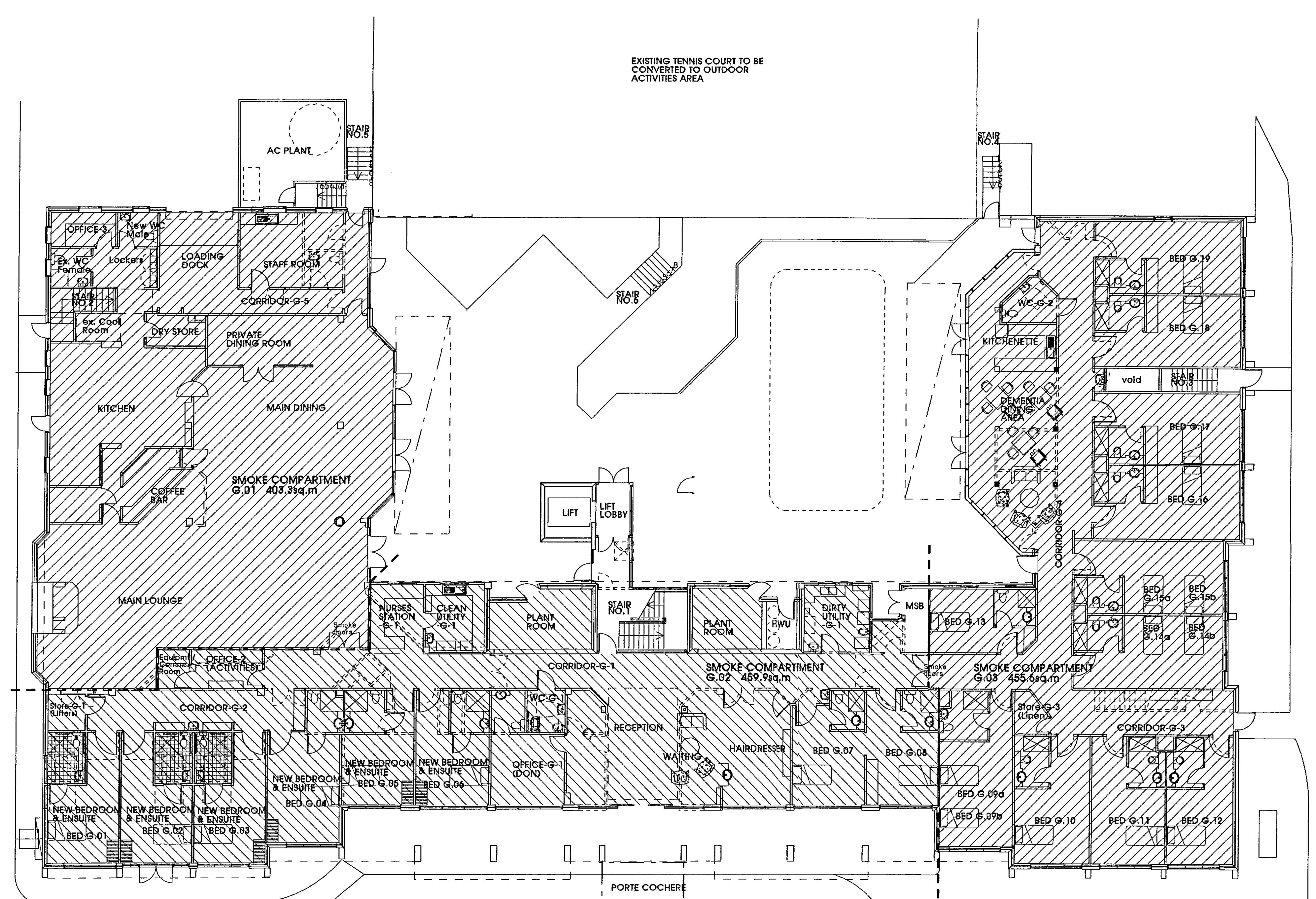
WD-05e



FIRST FLOOR PLAN
- SMOKE COMPARTMENTS

PLAN - ENTRANCE / PORTE COCHERE

NOTE: PERIMETER WALLS OF SMOKE COMPARTMENTS TO EXTEND TO UNDERSIDE OF ROOF



GROUND FLOOR PLAN
- SMOKE COMPARTMENTS

NOTE: PERIMETER WALLS OF SMOKE COMPARTMENTS TO EXTEND TO UNDERSIDE OF SLAB ABOVE

Construction Certificate No: 1307-01-2006-CC
Date Issued: 11 JUL 2006
Approved by [illegible] for AE&D Pty Ltd
BSAP Accreditation No P0024

AMENDMENTS - ISSUE

28th September 05 - Client issue
a 29th September 2005 - Construction Certificate issue
b 16th February 2006 - General Revisions
c 31st March 2006 - General Revisions

LEGEND

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NOTES

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REDUCED LEVELS TO AUSTRALIAN HEIGHT DATUM (AHD)

PROJECT

THOMPSON HEALTH CARE MONA VALE AGED CARE FACILITY

25 - 33 BASSETT STREET MONA VALE

MACHON PAULL CONSULTANCY PTY. LTD.

Architecture

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INTERIOR ARCHITECTURE and DESIGN
12 EDEN ST. NORTH SYDNEY NSW 2060
PO BOX 1173 LANE COVE NSW 1595
TELEPHONE 9929 7941 FACSIMILE 9929 7652

DRAWING

SMOKE COMPARTMENT PLANS

North

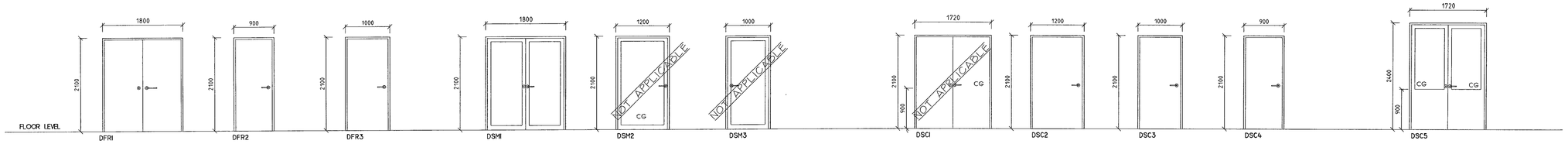
SCALE 1 : 200 @ A1

DATE 28th September 2005

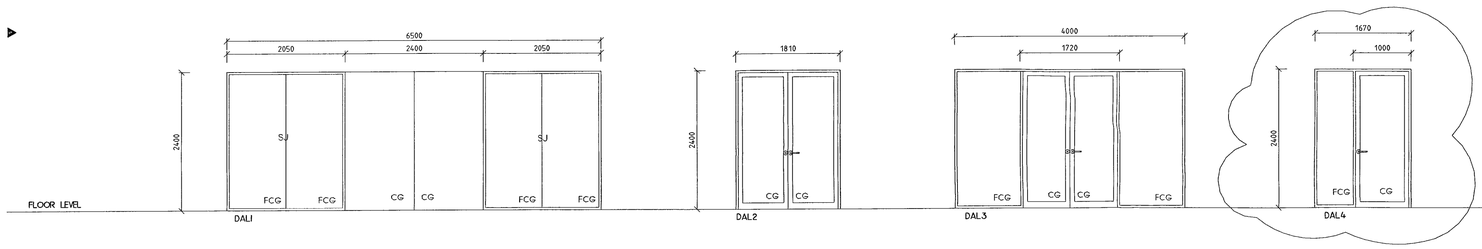
DRAWN RC

CHECKED PP

WD-06c



	DFR1	DFR2	DFR3	DSM1	DSM2	DSM3	DSC1	DSC2	DSC3	DSC4	DSC5
Door Type:	-/120/30 Fire resistant doorset, flush panel, waterproof, select paint finish.	-/60/30 Fire resistant doorset, flush panel, waterproof, select paint finish.	-/60/30 Fire resistant doorset, flush panel, waterproof, select paint finish.	Smoke door, Aluminium framed glass	Smoke door, Aluminium framed glass	Smoke door, Aluminium framed glass	Solid core, flush panel, waterproof, select paint finish.	Solid core, flush panel, waterproof, select paint finish.	Solid core, flush panel, waterproof, select paint finish.	Solid core, flush panel, waterproof, select paint finish.	Solid core, flush panel, waterproof, glass panel select paint finish.
Door leaf nominal size:	2 x 2040 x 850 mm	2040 x 820 mm	2040 x 920 mm	2 x 2040 x 850 mm	2040 x 1120 mm	2040 x 920 mm	2 x 2040 x 820 mm	2040 x 1120 mm	2040 x 920 mm	2040 x 820 mm	2 x 2340 x 820 mm
Frame:	1.1mm Zinc annealed steel included in fire resistant doorset	1.1mm Zinc annealed steel included in fire resistant doorset	1.1mm Zinc annealed steel included in fire resistant doorset	Aluminium	Aluminium	Aluminium	1.1mm Zinc annealed steel	1.1mm Zinc annealed steel	1.1mm Zinc annealed steel	1.1mm Zinc annealed steel	Aluminium
Comments:	to AS/NZ 1905.1. Automatic closer	to AS/NZ 1905.1. Automatic closer	to AS/NZ 1905.1. Automatic closer	Select colour powdercoat finish, master keyed, fitted with smoke seals. Magnetic door holder with automatic closers initiated by smoke detectors. Refer Fire Alarm Services drwgs.	Select colour powdercoat finish, master keyed, fitted with smoke seals. Magentic door holder with automatic closers initiated by smoke detectors. Refer Fire Alarm Services drwgs.	Select colour powdercoat finish, master keyed, fitted with smoke seals. Magnetic door holder with automatic closers initiated by smoke detectors. Refer Fire Alarm Services drwgs.					Select colour powdercoat finish, master keyed.
Locations:		Plant Room	Stairs	GF Corridors, FF Corridors				Bedrooms	Ensuites, Visitors WCs, Office-G-L, Peninsula Bath, Dirty Linen Store, Lifters Stores	Clean Utilities, Dirty Utilities Store Rooms	Private Dining Room.



	DAL1	DAL2	DAL3	DAL4
Door Type:	Frameless glazed doors with sidelights	Aluminium framed glazed doors	Aluminium framed glazed doors with sidelights	Aluminium framed glazed door
Door leaf nominal size:	2 x 2400 x 1230 mm	2 x 2340 x 860 mm	2 x 2340 x 820 mm	2340 x 920 mm
Frame:	Aluminium	Aluminium	Aluminium	Aluminium
Comments:	Select colour powdercoat finish to sidelight perimeter frame master keyed. Automatic operator for Entry only. Pushbutton/keypad for exit function. Emergency override on fire alarm for exit function	Select colour powdercoat finish, master keyed.	Select colour powdercoat finish, master keyed.	Select colour powdercoat finish, master keyed.
Locations:	Entry	Lift Lobby	Dining-F-1	Lift Lobbies

LEGEND

FCG	FIXED CLEAR GLASS
CGL	CLEAR GLASS ADJUSTABLE LOUVRES
CG	CLEAR GLASS
OB	OBSCURE GLASS
FV	FIXED VENTILATION
SJ	SILICON JOINT

NOTES

1. Approximate structural opening sizes shown only. Builder to allow for lining thicknesses and tolerances.
2. All doors and frames to comply with the Building Code of Australia and applicable Australian Standards.

Construction Certificate No. 1307-01-2006 cc

Date issued 11 JUL 2006

Approved by ... for AE&D Pty Ltd
BSAP Accreditation No. P0024

AMENDMENTS - ISSUE

28th September 05 - Client issue
a 29th September 2005 - Construction Certificate issue
b 7th November 2005 - General revisions
C 16th February 2006 - DAL4 mirror reversed

LEGEND

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REDUCED LEVELS TO AUSTRALIAN HEIGHT DATUM (AHD)

PROJECT

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MONA VALE
AGED CARE FACILITY

LOCATED AT

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MONA VALE

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Architecture

ARCHITECTURE PROJECT MANAGEMENT INTERIOR ARCHITECTURE and DESIGN

12 EDEN ST., NORTH SYDNEY NSW 2060
PO BOX 1173 LANE COVE NSW 1595
TELEPHONE 9929 7941 FACSIMILE 9929 7652

DRAWING

Door Schedule

SCALE 1:50 @ A1

DATE 28th September 2005

DRAWN RC

CHECKED PP

WD-07c