Telephone 1300 663 215
Facsimile (02) 9659 1633
PO Box 6160
Baulkham Hills BC NSW 2153

R Moy & Associates Pty Ltd
T/as Greenfield Accredited Certifiers
ACN 100 924 605
ABN 23 100 924 605

COUNCIL COPY Construction Certificate

CONSTRUCTION CERTIFICATE NUMBER **CC2006-07002**

Issued in accordance with the Environmental Planning & Assessment Act 1979 under sections 109C(1)(b) and 109F.

COUNCIL: **PITTWATER**

APPLICANT

Name	Hotondo Hornsby
Address	Unit 9, 4 Hamley Road, MT KURING-GAI 2080
Contact no (telephone/fax)	9457 6800

OWNER

Name	Andrea Fitzpatrick
Address	c/- Hotondo Homes, Hornsby

SUBJECT LAND

Address	107 Wimbledon Avenue, NORTH NARRABEEN 2101
	Lot No 1
	DP - 17768

DESCRIPTION OF DEVELOPMENT

Type of Work ☑ Building work ☐ Subdivision work

Description Two Storey Dwelling and Splash Pool

COUNCIL'S D/A CONSENT

Development Consent No N0074/05

D.A Approval Date 12/09/2005

BUILDING CODE OF AUSTRALIA

BUILDING CLASSIFICATION 1

BUILDER or OWNER/BUILDER

Name Hotondo Hornsby

Contractor Licence No. or

Owner Builder Permit No. 142748c

$ VALUE OF WORK

Building/Subdivision $500,000.00

DATE CC APPLICATION RECEIVED

Date Received 14/12/2005

DETERMINATION

Decision Approved

Date of Decision 17/01/2006

ATTACHMENTS

Council Submission Cheque $30.00

PCA / Land Owners Form

Home Owners Warranty Insurance

Long Service Levy Receipt

Basix Certificate Number: 31399S

Sydney Water Approval

Stormwater Details prepared by Thomas Lau - Morgan Thomas Pty Ltd dated 14/10/2005 - Stormwater Drainage Drawing Number: wimbeldon107-4 Sheets 1 and 2 Revision 0 dated: 10/10/2005

PLANS AND SPECIFICATIONS

APPROVED/REFUSED

List plan no(s) and specifications

Reference: Drawing Numbers: A-01, A-02 and A-05 Issue A dated: 16/10/2005

Drawing Number: A-03 Issue A dated: 18/10/2005

Drawing Number: A-04 Issue A dated: 19/10/2005

RIGHT OF APPEAL *under S109K where the Certifying Authority is a Council an applicant may appeal to the Land and Environmental Court against the refusal to issue a Construction Certificate within 12 months from the date of the decision.*

ACCREDITATION BODY DIPNR, 20 Lee Street, Sydney 2000.

CERTIFICATION

I, Kieran Tobin, as the certifying authority am satisfied that:

(a) the requirements of the regulations referred to in s81A(5) have been complied with. That is, work completed in accordance with documentation accompanying the application for this certificate (with such modifications verified by the certifying authority as may be shown on that documentation) will comply with the requirements of the Regulation as are referred to in section 81A (5) of the Act, and

(b) long service levy has been paid where required under s34 of the Building and Construction Industry Long Service Payments Act 1986.

CERTIFYING AUTHORITY

Name of Certifying Authority	Greenfield Accredited Certifiers
Name of Accredited Certifier	Kieran Tobin
Accreditation No	44
Contact No	1300 663 215
Address	PO Box 6160 Baulkham Hills BC 2153.

SIGNED _____

DATED 17/01/2006

INFORMATION ON REQUIRED INSPECTIONS

Please find your Construction Certificate CC2006-07002 enclosed for:

[Lot1] 107 Wimbledon Avenue, NORTH NARRABEEN 2101

We will be required to carry out the following critical stage inspections:

- **Commencement**
- **Stormwater**
- **Combined Framework & Wet Area** – Truss & Bracing details will be required prior to inspection
- **Final**

Please note that you will need to arrange for an ENGINEER accredited under the IEAust Accreditation Scheme to carry out the following critical stage inspections:

- **Piers, footings and slab**

TO BOOK AN INSPECTION CALL US ON 1300 663 215 AND ASK FOR "INSPECTION BOOKINGS"

PLEASE BOOK INSPECTIONS BEFORE 3.00PM THE DAY PRIOR TO THE INSPECTION

Contact Personnel

Keiryn Ingram

To check the status of your job contact:

For technical enquiries contact:
Kieran Tobin

COUNCIL COPY

Greenfield Accredited Certifiers

Construction/Complying Development Certificate Application Form

Issued under the Environmental Planning & Assessment Act 1979

R Moy & Associates Pty Ltd
Trading as Greenfield Accredited Certifiers
ACN 100 924 605
ABN 23 100 924 605

Postal Address: PO Box 6160 Baulkham Hills BC NSW 2153

Telephone **1300 663 215**
Facsimile **9659 1633**

Email enquiries@greenfieldcertifiers.com.au
Website www.greenfieldcertifiers.com.au

Privacy Policy – The information you provide in this application will enable your application to be assessed by the certifying authority under the Environmental Planning and Assessment Act 1979. If the information is not provided, your application may not be accepted. The application can potentially be viewed by members of the public. Please contact Greenfield Accredited Certifiers if the information you have provided in your application is incorrect or requires modification..

CHECKLIST – DOCUMENTS TO ACCOMPANY THIS APPLICATION

For Construction Certificate Applications:

- ☐ Complete & sign this Application form – builder can sign
- ☐ Completion of Land Owners Form to be signed by ALL owners
- ☐ 1 copy of Council DA approved plans
- ☐ 1 copy of Council development consent
- ☐ 3 copies of architectural plans with amendments satisfying conditions
- ☐ 3 copies of building specifications
- ☐ If using a licensed builder - copy of Home Owners Warranty insurance if work is valued over $12,000 (N/A for commercial or industrial development)
- ☐ If not using a licensed builder - copy of Owner-Builder permit if work is valued over $5,000 (N/A for commercial or industrial development)
- ☐ Proof of payment of Long Service Levy if work is valued $25,000 or over
- ☐ Cheque made payable to Council for Certificate Registration Fee – schedule of Council fees can be provided on request.

For Complying Development Applications:

- ☐ Complete & sign this Application form – builder can sign
- ☐ Completion of Land Owners Form to be signed by ALL owners
- ☐ 3 copies of architectural plans
- ☐ 3 copies of building specifications
- ☐ If using a licensed builder - copy of Home Owners Warranty insurance if work is valued over $12,000 (N/A for commercial or industrial development)
- ☐ If not using a licensed builder - copy of Owner-Builder permit if work is valued over $5,000 (N/A for commercial or industrial development)
- ☐ Long Service Levy will apply if work is valued $25,000 or over
- ☐ Copy of relevant Water Authority Approval (if applicable)
- ☐ Cheque made payable to Council for Certificate Registration Fee – schedule of Council fees can be provided on request.

1. TYPE OF APPLICATION

I wish to make an application for a:

☐ Complying Development Certificate
Issued under the Environmental Planning & Assessment Act 1979 sections 85 and 85A

☑ Construction Certificate
Issued under the Environmental Planning & Assessment Act 1979 sections 109C(1)(b), 81A(2) & 81A(4)

Class of building under the Building Code of Australia	b
Development application no.	N0074/05
Date which development consent was granted	12/09/2005

2. DETAILS OF THE APPLICANT

Applicant Name	GRAHAM DOWD		
Or Company	HOTONDO HORNSBY PTY LTD		
Applicant Address	9/4 HAMLEY RD		
	MT KURING-GAI	Postcode	2080
Phone: 9457-6800	Fax: 9457-7600	Email: hotondoh@bigpond.net.au	

3. BILLING DETAILS (if different from Applicant)

Bill To:	AS ABOVE.
Billing Address:	

Note: Applicant will be liable for payment of our fees if funds cannot be recovered from the above

4. DETAILS OF THE OWNER(S)

Owner/s Name	ANDREA FITZPATRICK.		
Or Company			
Owners Address	25 ALTAIR PLACE		
	PENRITH.	Postcode	2750.
Phone: 0247322491	Fax: 0247321227	Email:	

5. IDENTIFY THE LAND YOU PROPOSE TO DEVELOP

Site Address	107 WIMBLEDON AVE		
	NARRABEEN NSW.	Postcode	2101.
Lot no.	1	DP/SP no.	17768.
Council Area	MITWATER		

6. DETAILS OF THE PROPOSED DEVELOPMENT

Description of work to be carried out	CONSTRUCTION OF A 2 STOREY DWELLING WITH DOUBLE GARAGE/CARPORT
Estimated cost of development including GST	$500,000.

7. DETAILS OF THE BUILDER

Licensed Builder Name, or Owner Builder Name	HOTONDO HORNSBY PTY LTD.		
Builder License No. or Owner Builder Permit No.	142748C		
Builders Address	UNIT 9, 4 HAMLEY RD		
	MT KURING-GAI	Postcode	2080
Phone: 9457-6800	Fax: 9457-7600	Email: hotondoh@bigpond.net.au.	

8. PLANS & SPECIFICATIONS

List plan numbers & specification reference details included in this application:	A01 – A07.

Please continue to next page for signing

AUSTRALIAN BUREAU OF STATISTICS SCHEDULE – compulsory

Please complete this schedule. The information will be sent to the Australian Bureau of Statistics.

All new buildings

• Number of storeys (incl underground floors)	2
• Gross floor area of new building (m²)	460 m².
• Gross site area (m²)	993 m²

Residential buildings only

• No. of dwellings to be constructed	1
• No. of pre-existing dwellings on site	NIL
• No. of dwellings to be demolished	NIL
• Will the new dwelling/s be attached to other new buildings ?	NO
• Will the new building(s) be attached to existing buildings ?	NO
• Does the site contain a dual occupancy ?	NO.

Materials – Residential Buildings

WALLS		ROOF		FRAME		FLOOR	
Brick Veneer	✓	Aluminium	✓	Timber	✓	Concrete	✓
Full Brick		Concrete		Steel		Timber	
Single Brick		Concrete Tiles		Aluminium		Other (describe)	
Concrete Block		Fibrous Cement		Other (describe)			
Concrete Masonry		Fibreglass					
Concrete		Masonry Shingle					
Steel		Terracotta Shingle					
Fibrous Cement		Tiles – other					
Hardiplank	✓	Slate					
Timber/Weatherboard		Steel					
Cladding/Aluminium		Terracotta Tiles					
Curtain Class		Other (describe)					
Other (describe below)							

CC/CDC No. 2006-7002 DA No. N0074/05

SIGNATURES

The applicant must sign the application.

Applicant Signature

X ~~A. Fitzpatrick~~ Graham David

Date

13/12/05.

Sydney WATER COUNCIL COPY

Quick Check

Building Plan Approval Application Application Return Advice

Quick Check Ref No: 1459905

Building Plans Approved – Requirements Apply.	
☑	The Building Plans submitted have been approved and are being returned. Additional charges now apply (see invoice attached)
☑	The foundations/footings for the proposed structure/building are required to be supervised by Sydney Water's Civil Maintenance group. They can be contacted (to arrange for the supervision) on the phone number indicated on the approval stamp (on the back of one of the plans)
☐	The existing Sydney Water sewer is required to be concrete encased. This work needs to be carried out by an accredited Minor/Major Works Supplier, who must first lodge an application at a Quick Check agent. Details of the Minor/Major Works Supplier can be found at www.sydneywater.com.au → Building Developing and Plumbing →Supplier Information →Constructor of Minor Works/Constructors

Building Plans NOT Approved	
☐	The Building Plans submitted have NOT been approved and are being returned.
☐	The location of Sydney Water's assets (sewer, stormwater & watermain) will need to be accurately determined before the plans can be reviewed. The customer will need to carry out a Service Protection Application (also known as a 'Peg Out') which will accurately determine the location of the asset/s, as well as determining its depth and the property sub strata details (soil, clay, sand, rock etc). The Service Protection Application can be carried out by an accredited supplier, whose details can be found at www.sydneywater.com.au → Building Developing and Plumbing →Supplier Information →Sewer Locations Pegouts. Alternatively an application can be made at a Quick Check agent, for Sydney Water to carry out this work.
☐	Once you have received the Service Protection Application report, you will need to give this report to the Structural Engineer who is designing the foundations for the structure so that they can design the foundations appropriately to ensure that the structure does not impact on Sydney Water's asset/s.
☐	Upon completion of the Service Protection Application and once the engineers plans have been prepared/amended, you will need to submit the building plans, engineers plans and a copy of the Service Protection Application report to Sydney Water via a Quick Check Agent for review.
☐	The indemnity attached needs to be completed, signed by the owner/s of the property and returned with the Building Plans to Sydney Water via a Quick Check Agent.
☐	**Other Comments:**

Building Plans Approved – No Specific Requirements.	
☐	The Building Plans submitted have been approved. Sydney Water does not have any specific requirements in this instance and does not require the works to be supervised.

Application Approval – Contact Details.					
Development Services Representative	**Jannine Brodbeck**	**Phone**	**9828-8358**	**Facsimile**	

QUICK CHECK

Application Lodgement Summary

Sydney WATER

Reference Number 1497484

Date Requested: Mon November 7 2005

WAMS Number: 10959109

Agent	Sydney Water, Liverpool, Cnr Bigge and Moore St, Liverpool
Applicant	At Fitzpatrick, 107 Wimbledon Ave North Narrabeen 2101
Property/Asset	107 Wimbledon Ave, North Narrabeen 2101 (At Fitzpatrick) PNum: 3464981 225 mm CICL Sewer Main - (3892978) 225 mm CICL Sewer Main - (3895702)
Product	Pier Supervision

Charge	Product Cost	GST	Total
Pier Supervision Fee	$278.90	$27.89	$306.79

Your application has been sent to **North Coast Depot, Government Road, Beacon Hill** for action.
Enquiries can be directed to **8977 5204**, fax **9975 7972** or DX : **DX2522W**.
The anticipated turnaround time is **4 days**

QUICK CHECK

Transaction Summary

Sydney WATER

Date Requested Mon November 7 2005

A.B.N 49 776 225 038

Agent Reece Penrith, ?

Applicant At Fitzpatrick, 107 Wimbledon Ave North Narrabeen 2101

This document will be a tax invoice when you make payment.

Transaction Details			Charge	GST	Total
107 Wimbledon Ave, North Narrabeen 2101					
09	1459905	Determining Requirements on Builder - Technical Services	$79.00	$7.90	$86.90
09	1459905	Pier Supervision Fee	$278.90	$27.89	$306.79
Transaction Total			**$357.90**	**$35.79**	**$393.69**

Sydney WATER

Date 1/11/05

Owners Name ANDREA FITZPATRICK

Property Address: **107 WIMBLEDON AVENUE**

Suburb **NORTH NARRABEEN** Municipality: **PITTWATER**

Property Number **3464981**

Dear Sir/Madam,

I/~~We~~, ANDREA FITZPATRICK

being the owner/s for the time being of the abovementioned property, hereby **INDEMNIFY** Sydney Water against all claims arising out of the presence on the subject property of the **DEMOUNTABLE TIMBER STAIRS** over the sewer and maintenance operations carried out thereon which may result from the construction of the **DEMOUNTABLE TIMBER STAIRS** over the said sewer and which do not result from negligence on the part of the Corporation or it's officers or workmen **AND I/~~WE~~ ACKNOWLEDGE** that Sydney Water is not to be liable for restoration or reinstatement of the **DEMOUNTABLE TIMBER STAIRS** if they are moved for any maintenance operations as aforesaid **AND I/~~WE~~ UNDERTAKE** to obtain a like indemnity and acknowledgment from the successors in Title to the said property.

A Fitzpatrick

Owners Signature

Witnesses Signature

Witnesses Name: JILL Y FITZPATRICK

Witnesses Address: 25 ALTAIR PLACE DEE WHY 2750.

QUICK CHECK

Application Lodgement Summary

Sydney WATER

Reference Number 1459905 **Date Requested:** Wed September 21 2005

Agent	Reece Penrith, ?
Applicant	At Fitzpatrick, 107 Wimbledon Ave North Narrabeen 2101
Property/Asset	107 Wimbledon Ave, North Narrabeen 2101 (At Fitzpatrick) PNum: 3464981 225 mm CICL Sewer Main - (3892978) 225 mm CICL Sewer Main - (3895702)
Product	Building Plan Approval Application

Charge	Product Cost	GST	Total
Building Plan Approval Application Fee	$16.50	$0.00	$16.50

Your application has been sent to **Technical Services Liverpool, Cnr Bigge/Moore Streets, Liverpool** for action.
Enquiries can be directed to **(02) 9828 8553**, fax **(02) 9828 8629** or DX : **Dx2546W**.
The anticipated turnaround time is **8 days**

ALREADY PAID INVOICE 4041548

QUICK CHECK

Transaction Summary

Sydney WATER

Date Requested Wed September 21 2005 **A.B.N** 49 776 225 038

Agent Reece Penrith, ?
Applicant At Fitzpatrick, 107 Wimbledon Ave North Narrabeen 2101

This document will be a tax invoice when you make payment.

Transaction Details			Charge	GST	Total
107 Wimbledon Ave, North Narrabeen 2101					
03	1459905	Building Plan Approval Application Fee	$16.50	$0.00	$16.50
Transaction Total			**$16.50**	**$0.00**	**$16.50**

BYRNE & ASSOCIATES PTY. LTD.

CONSULTING SURVEYORS & ENGINEERS

A.B.N. 59 002 109 202

J.B. Byrne - Emeritus Surveyor, Dip Surv.Science
P.B. Byrne - M.I.S. Aust, B. Surv.
W.P. Kelly – M.I.S. Aust, R.V., Dip. Env. Stud.
M.A. Geros - M.I.E.C.A.

Members Institution of Surveyors Aust.

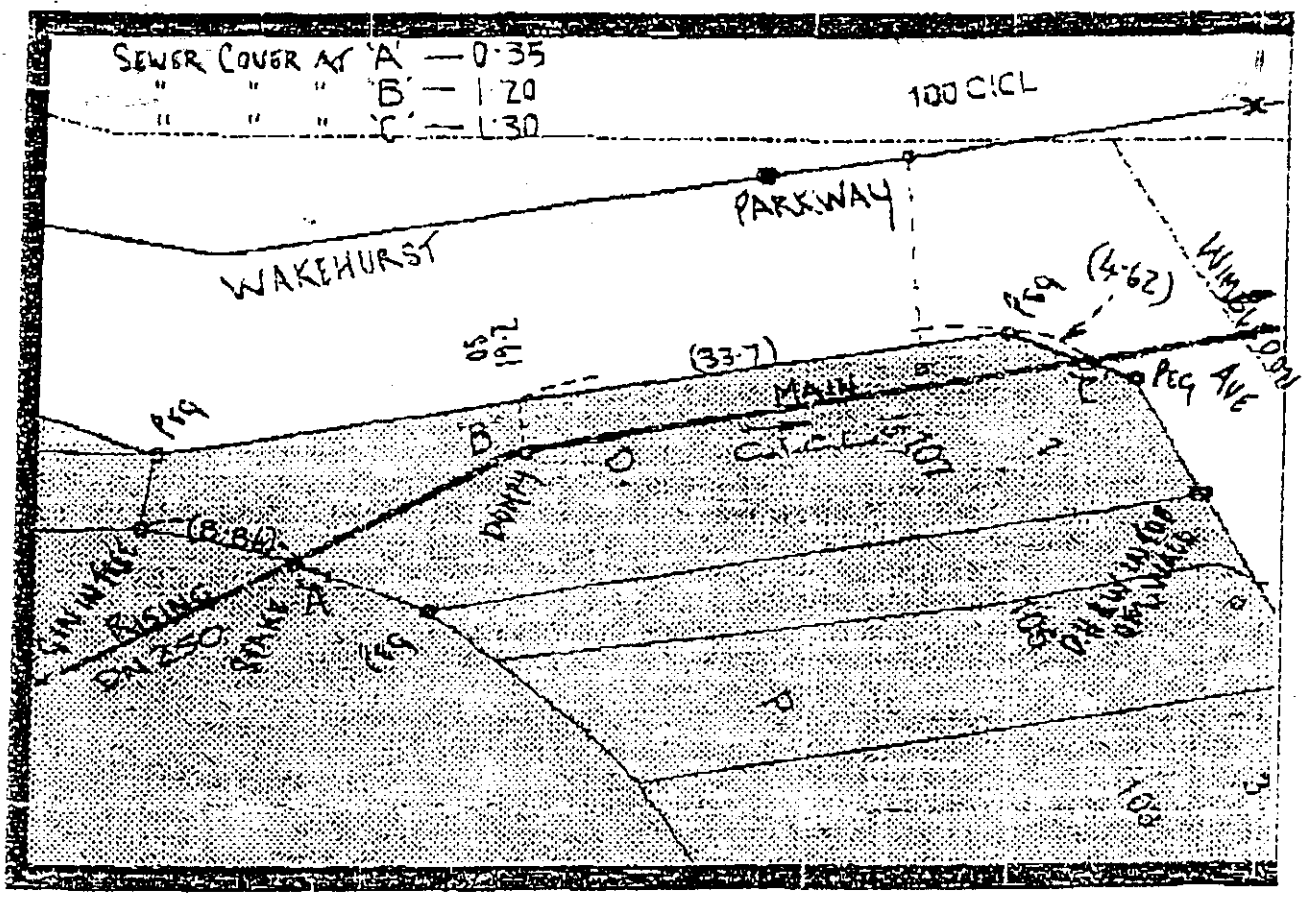
63 Waterloo Street
(P.O. Box 167)
Narrabeen N.S.W. 2101
Ph: (02) 9913 7110
Fax: (02) 9913 1585
Email: survey@byrneandassociates.com.au

Our Ref: 20404

Date of Inspection: 14-7-04

Applicant: Mr B.Joyce
146 Fuller Street
Narrabeen NSW.
2101

SEWER MAIN ASSET PROTECTION DIAGRAM
PROPERTY: No.107 Wimbledon Avenue Narrabeen.



Byrne & Associates Key Personnel: Paul Byrne

Signature:..... / /

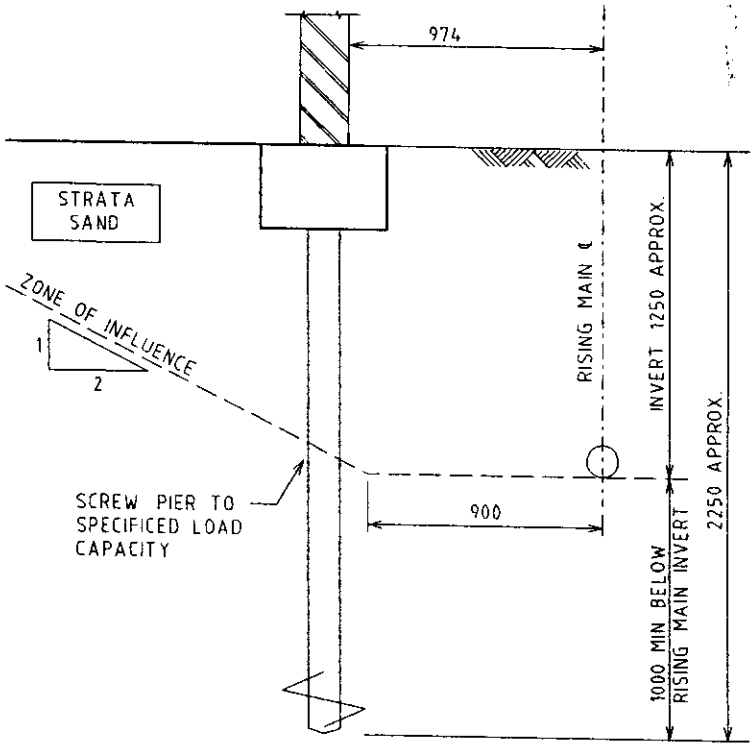
Strata: All Soil (Sand)

Real Property Boundaries determined by: P.Byrne/Byrne & Associates P/L

W.O. 37089

Note: North is directly upwards
The above sketch is not to scale (refer only to dimensions)

Sydney WATER LICENSED WATER SERVICING CO-ORDINATORS



SECTION A/1

REV	DESCRIPTION	DATE

DONOVAN DESIGNS PTY LTD
CIVIL AND STRUCTURAL ENGINEERS
SUITE 102, 30 COWPER STREET, PARRAMATTA NSW 2150
Ph (02) 9806 3060, FAX (02) 9891 2806 ABN 61002289867

DRAWING TITLE
MR TIM FITZPATRICK
LOT 1 (107)
WIMBLEDON AVE
NARRABEEN

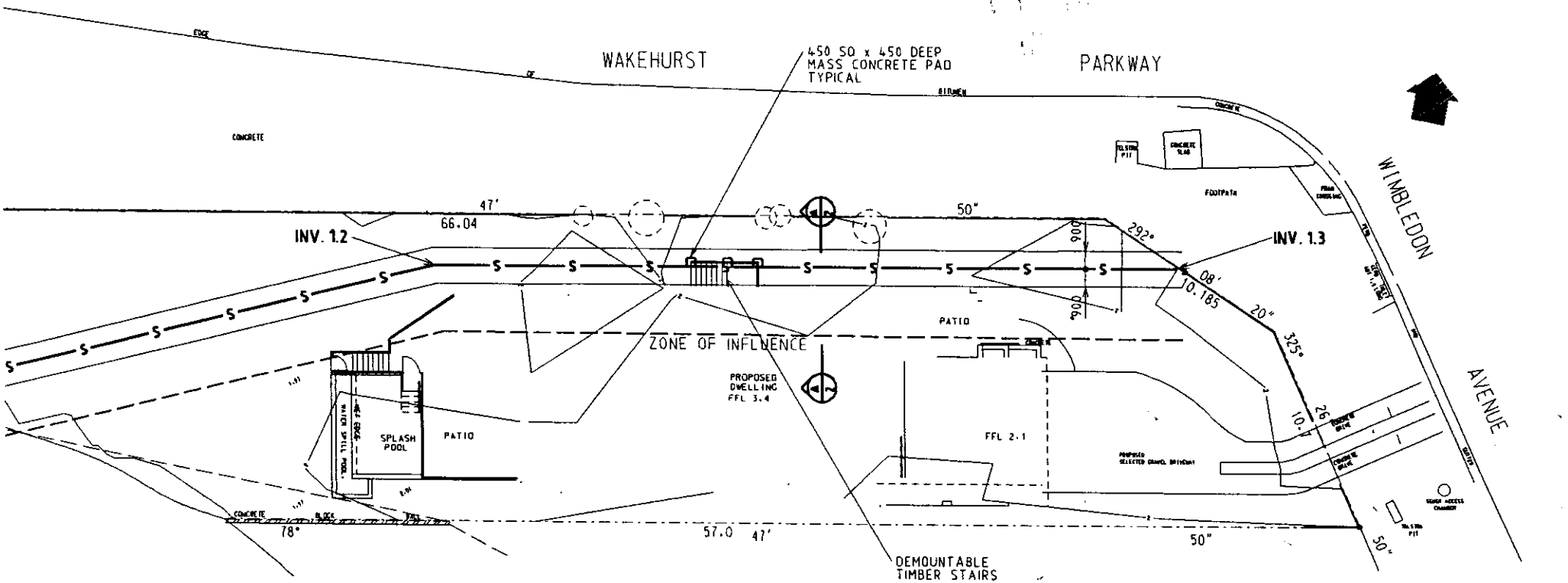
SHEET TITLE
BOS SECTION

APPROVED
B.E., M.I.E. Aust.

SCALE 1:100 DATE 11.05

DESIGNED JD DRAWN MWF CHECKED JD

JOB No E69310 JOB/DRAWING No 69310-02 ISSUE A



REV	DESCRIPTION	DATE
B	STAIR PADS ADDED	31105

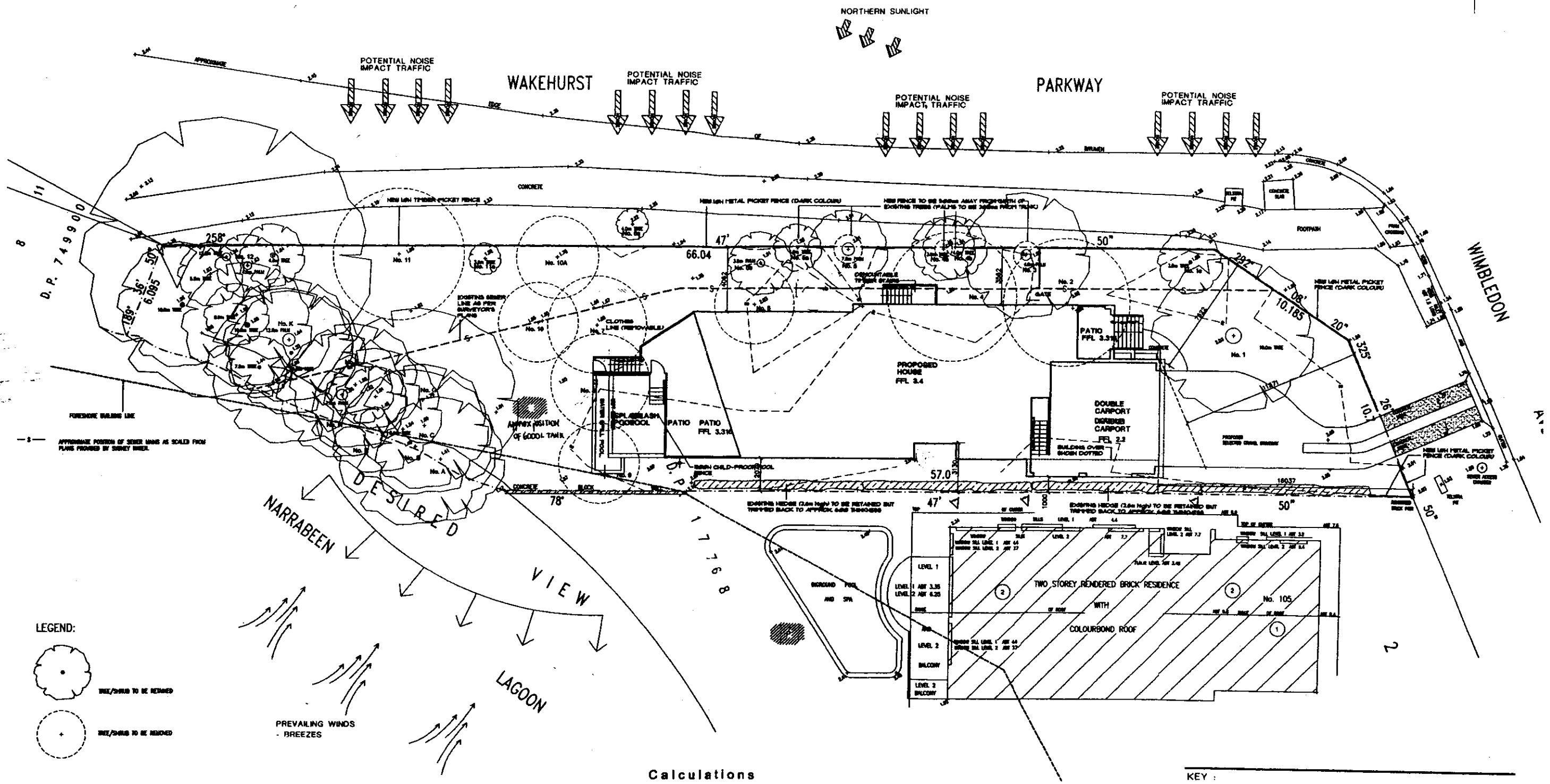
DONOVAN DESIGNS PTY LTD
CIVIL AND STRUCTURAL ENGINEERS
SUITE 102, 30 COWPER STREET, PARRAMATTA NSW 2150
Ph (02) 9806 3066, FAX (02) 9891 2806 ABN 41002289867

DRAWING TITLE
MR TIM FITZPATRICK
LOT 1 (107)
WIMBLEDON AVE
NARRABEEN

SHEET TITLE
BOS PLAN

APPROVED
B.E., M.I.E. Aust.

SCALE 1:200 DATE 1.11.05
DESIGNED JD DRAWN MWF CHECKED JD
JOB No E69310 JOB/DRAWING No 69310-01 ISSUE B



LEGEND:

TREE/SHRUB TO BE RETAINED

TREE/SHRUB TO BE REMOVED

AMENDMENTS:

ISSUE	DESCRIPTION
B	AMENDED EXISTING LANDSCAPE TO BE REMOVED CHANGED BOUNDARY FENCE HEIGHT/TYPE
C	REVISED SITE PLAN

Calculations

DESCRIPTION	RESULTS
Site Area:	993 m2
Building Site Coverage:	31% /316 m2
Landscaped Area:	69% /661 m2
Ground Floor Living Area:	197 m2
First Floor Living Area:	166 m2
Carport Area:	56 m2
Patios, Etc	41 m2
TOTAL GROSS FLOOR AREA:	460 m2

KEY :

- NUMBER OF STOREYS
- OVERLOOKING
- EXISTING TREES
- PROPOSED DEVELOPMENT SITE
- PRIVATE OPEN SPACE
- EXISTING SITE CONTOURS
- PREVAILING WINDS
- NORTHERN SUNLIGHT
- PUBLIC TRANSPORT
- POTENTIAL NOISE IMPACT TRAFFIC & NEIGHBOURING
- PUBLIC RESERVE OR PUBLIC PARK

- PROPOSED NEW RESIDENCE -

PROPOSED SITE PLAN

FOR: TIM FITZPATRICK

Lot 1, D.P. 17768, No. 107 Wimbledon Avenue, Narrabeen, NSW

Scale 1:125 - Date: FEB. 2005 - Designed: L.Rizzo - Job No.: 5011

URBANjorm
D.E.S.I.G.N.S
Pty Limited ABN19 085 203 758
LOUIS RIZZO Bvsh. Hons. UTS
2 NORN CLOSE
GREENFIELD PARK, NSW, AUSTRALIA, 216
PHONE: (02) 9823-8388
FAX: (02) 9823-117
EMAIL: louis@urbanfm.com.au

DA-02

ISSUE: B, C

SEWER AFFECTED
SYDNEY WATER SUPERVISOR REQUIRED
OTHERWISE LETTER OF COMPLIANCE
WILL NOT BE ISSUED

SYDNEY WATER

Proposed building is APPROVED for construction over/adjacent to Sydney Water's sewer provided

1. Foundations are below 2:1 zone of influence
2. No part of the building or its foundations is less than 0.9 horizontal distance from the centre-line of the sewer
3. Foundations are constructed in accordance with Engineers detail plans as submitted to and stamped by Sydney Water

NOTE: ABOVE CONDITIONS, AND ANY OTHERS, MUST HAVE SYDNEY WATER SUPERVISION OTHERWISE LETTER OF COMPLIANCE WILL NOT BE ISSUED
Supervision can be arranged by phoning Inspector on 89775208 between 8.30a.m. and 3.30 p.m. giving at least 48 HOURS NOTICE

See file: BAS/3464981

E Broadbent
TECHNICAL SERVICES
BLACKTOWN CUSTOMER CENTRE
07/11/05

SYDNEY WATER CORPORATION

4. PROPOSED RESIDENCE TO BE FOUNDED AS PER DETAILED DRAWINGS, SUBMITTED.
5. PROPOSED DEMOUNTABLE TIMBER STAIRS COVERED BY LETTER OF INDEMNITY.
6. DURING CONSTRUCTION, PROTECTIVE MEASURES WILL NEED TO BE TAKEN TO ENSURE THAT HEAVY MACHINERY, TRUCKS ETC, DO NOT TRAVEL ALONG THE LINE OF THE TRENCH OR MEASURES TAKEN TO DISTRIBUTE THE LOADS AWAY FROM THE RISING MAIN eg: Timber Boards.
7. TREE PLANTING OR THE CONSTRUCTION OF GARDEN BEDS ETC, LARGE TREES OR TREES WITH INVASIVE ROOT SYSTEMS SHOULD BE AVOIDED.

COUNCIL COPY

BASIX Certificate

Building Sustainability Index www.basix.nsw.gov.au

Certificate number: 31399S

This certificate confirms that the proposed development will meet the NSW government's requirements for sustainability, if it is built in accordance with the commitments set out below. Terms used in this certificate, or in the commitments, have the meaning given by the document entitled "BASIX Definitions" dated 30/06/2005, published by the Department of Planning. This document is available at www.basix.nsw.gov.au

Director-General
Date of issue: Tuesday, 04 October 2005

NSW GOVERNMENT
Department of Planning

Score

- ✓ Water: 41 (Target 40)
- ✓ Thermal comfort: pass (Target pass)
- ✓ Energy: 35 (Target 25)

Description of project

Project address	
Project name	Fitzpatrick Residence - North Narrabeen - Issue I
Street address	107 Wimbledon Avenue
Suburb	North Narrabeen
Postcode	2101
Local Government Area	Pittwater Council
Project type	
Project type	separate dwelling house
No. of bedrooms	4
Site details	
Site area (m²)	993
Roof area (m²)	290
Conditioned floor area (m2)	300
Unconditioned floor area (m2)	16
Total area of garden and lawn (m2)	331
Assessor details and thermal loads	
Assessor number	20603
Certificate number	10156673
Cooling load (MJ/m².year)	49
Heating load (MJ/m².year)	44
Other	
Groundwater Licence/Water Supply Works Approval number	n/a

Schedule of BASIX commitments

The commitments set out below regulate how the proposed development is to be carried out. It is a condition of any development consent granted, or complying development certificate issued, for the proposed development, that BASIX commitments be complied with.

Water Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Landscape			
The applicant must plant indigenous or low water use species of vegetation throughout 330 square metres of the site.	✓	✓	
Fixtures			
The applicant must install showerheads with a minimum rating of 2A in all showers in the development.		✓	✓
The applicant must install a toilet flushing system with a minimum rating of 1A in each toilet in the development.		✓	✓
The applicant must install taps with a minimum rating of 2A in the kitchen in the development.		✓	
The applicant must install basin taps with a minimum rating of 2A in each bathroom in the development.		✓	
Alternative water			
Rainwater tank			
The applicant must install a rainwater tank with a capacity of at least 6000 litres on the site. This rainwater tank must meet, and be installed in accordance with, the requirements of all applicable regulatory authorities.	✓	✓	✓
The applicant must configure the rainwater tank to collect rain runoff from at least 270 square metres of the roof area of the development (excluding the area of the roof which drains to any stormwater tank or private dam).		✓	✓
The applicant must connect the rainwater tank to: • all toilets in the development • at least one outdoor tap in the development (Note: NSWHealth does not recommend that rainwater be used for human consumption in areas with potable water supply.)		✓ ✓	✓ ✓
Swimming pool			
The swimming pool must not have a volume greater than 26.4 kilolitres.	✓	✓	
The swimming pool must have a pool cover.		✓	

Water Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
The swimming pool must be protected and shaded.	✓	✓	

Thermal Comfort Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Simulation Method			
The applicant must attach the certificate referred to under "Assessor Details" on the front page of this BASIX certificate (the "Assessor Certificate") to the development application and construction certificate application for the proposed development (or, if the applicant is applying for a complying development certificate for the proposed development, to that application). The applicant must also attach the Assessor Certificate to the application for an occupation certificate for the proposed development.			
The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.			
The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX certificate, including the Cooling and Heating loads shown on the front page of this certificate.			
The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Assessor Certificate requires to be shown on those plans. Those plans must bear a stamp of endorsement from the Accredited Assessor to certify that this is the case. The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all thermal performance specifications set out in the Assessor Certificate, and all aspects of the proposed development which were used to calculate those specifications.			
The applicant must construct the development in accordance with all thermal performance specifications set out in the Assessor Certificate, and in accordance with those aspects of the development application or application for a complying development certificate which were used to calculate those specifications.		✓	✓
The applicant must construct the development so that is has a suspended floor, and the following circumstance must apply: dwelling located in flood-prone area.	✓	✓	✓

Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Hot water			
The applicant must install the following hot water system in the development, or a system with a higher energy rating, or a system with a higher energy rating: gas instantaneous - 3 Star	✓	✓	✓
Cooling system			
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 living area: ceiling fans + 3-phase airconditioning; Energy rating: EER < 2.5		✓	✓
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 bedroom: ceiling fans + 3-phase airconditioning; Energy rating: EER < 2.5		✓	✓
The cooling system must provide for day/night zoning between living areas and bedrooms.		✓	✓
Heating system			
The applicant must install the following heating system, or a system with a higher energy rating, in at least 1 living area: 3-phase airconditioning; Energy rating: EER < 2.5		✓	✓
The applicant must install the following heating system, or a system with a higher energy rating, in at least 1 bedroom: 3-phase airconditioning; Energy rating: EER < 2.5		✓	✓
The heating system must provide for day/night zoning between living areas and bedrooms.		✓	✓
Ventilation			
The applicant must install the following exhaust systems in the development:			
At least 1 Bathroom: no mechanical ventilation (ie. natural); Operation control: n/a		✓	✓
Kitchen: individual fan, ducted to façade or roof; Operation control: manual switch on/off		✓	✓
Laundry: no mechanical ventilation (ie. natural); Operation control: n/a		✓	✓
Artificial lighting			
The applicant must ensure that the "primary type of artificial lighting" is fluorescent lighting in each of the following rooms, and where the word "dedicated" appears, the fittings for those lights must only be capable of accepting fluorescent lamps:			
• at least 5 of the bedrooms / study;		✓	✓
• at least 2 of the living / dining rooms;		✓	✓

Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
• the kitchen;		✓	✓
• all bathrooms/toilets;		✓	✓
• the laundry;		✓	✓
• all hallways;		✓	✓
Natural lighting			
The applicant must install a window and/or skylight in 4 bathroom(s)/toilet(s) in the development for natural lighting.	✓	✓	✓
Swimming pool			
The development must not incorporate any heating system for the swimming pool.			
The applicant must install a timer for the swimming pool pump in the development.		✓	
Other			
The applicant must install a gas cooktop & electric oven in the kitchen of the dwelling.		✓	
The applicant must construct each refrigerator space in the development so that it is "well ventilated", as defined in the BASIX definitions.		✓	
The applicant must install a fixed outdoor clothes drying line as part of the development.		✓	

Legend
In these commitments, "applicant" means the person carrying out the development.
Commitments identified with a ✓ in the "Show on DA plans" column must be shown on the plans accompanying the development application for the proposed development (if a development application is to be lodged for the proposed development).
Commitments identified with a ✓ in the "Show on CC/CDC plans and specs" column must be shown in the plans and specifications accompanying the application for a construction certificate / complying development certificate for the proposed development.
Commitments identified with a ✓ in the "Certifier check" column must be certified by a certifying authority as having been fulfilled, before a final occupation certificate(either interim or final) for the development may be issued.

Pittwater Council

OFFICIAL RECEIPT

3/01/2006 Receipt No 184436

To T D & AT Fitzpatrick

14 Topparoa Close
Churchill Gardens NSW 2170

Applic	Reference	Amount
GL Re	GLSL-Buil	$1,680.00
	1 x N0074/05 107 Wimbledo	

Total:	$1,680.00
Amounts Tendered	
Cash	$0.00
Cheque	$1,680.00
Db/Cr Card	$0.00
Money Order	$0.00
Agency Rec	$0.00
Total	$1,680.00
Rounding	$0.00
Change	$0.00
Nett	$1,680.00

Printed 3/01/2006 12:37:21
Cashier ADorri

L SL for House & pool as per DA.

COUNCIL

AUSTRALIAN HOME WARRANTY

COUNCIL COPY

Policy Schedule / Certificate of Insurance

Underwritten by Australian International Insurance Ltd. (ABN 29 006 544 690) ('Insurer')

TAX INVOICE

HOME WARRANTY - JOB SPECIFIC POLICY (NSW)

This certificate, when read in conjuction with the Policy of Insurance is a contract of insurance complying with: Section 92 in respect of CONTRACT WORK, or Section 93 in respect of SUPPLY OF A KIT HOME, or Section 95 in respect of OWNER BUILDER Work, or Section 96 in respect of WORK BY DEVELOPERS AND OTHERS, of the Home Building Act 1989 ('The Act') and/or the Home Building Regulation 1997 ('The Regulations') issued by the Insurer in respect of Residential Building Work performed by the Contractor in line with the Residential Building Work Contract detailed below. Subject to the Act, the Regulation and the conditions of the Contract of Insurance, cover will be provided to the person named as Beneficiary below and Successors in Title to the Beneficiary.

POLICY No.:	*AIIL - 001*	**CERTIFICATE No.:**	*100587*	**POLICY ISSUED:**	*19/12/2005*

INSURED

The Building Owner ('Beneficiary'):	*A Fitzpatrick*
Postal Address:	*14 Toparoa Close, Churchill Gardens NSW 2170*

RESIDENTIAL BUILDING WORK

Residential Building Work Covered by this Policy:	*Construction of a double storey dwelling with double carport & garage, consisting of brick veneer & cladding with metal roof on suspended slab floor - approximately 460 square metres - as per application dated 16/12/2005*		
At (Site Address):	*107 Wimbledon Avenue, North Narrabeen NSW 2101*		
Municipality:	*Pittwater Council*	**Contract Date:**	
Project Manager:	*John Peter Stein*	**Contract Price:**	*$500,000.00*
Est. Start Date:	*19/01/2006*	**Est. Completion Date:**	*19/12/2006*

CONTRACTOR

Carried out by (Trading Name):	*Hotondo Hornsby Pty Ltd*
Business Address:	*Unit 9, 4 Hamley Road Mount Kuring-gai NSW 2080*
ABN / ACN No.:	*84 102 785 508*
Licence/Contractor No.:	*142748c*
Phone No.:	*02 9457 6800*

MAXIMUM AMOUNT OF COVER AND CLAIMS

The limit of liability is $200,000.00 in aggregate in relation to each Dwelling, or such amount as is determined by the Regulations pursuant to the Act. The period in respect of which Claims may be made commences on the date of the relevant Residential Building Work Contract or date of issue of the Construction Certificate for the relevant work (whichever is the earlier); and expires on the date defined by Section 4 of the Contract of Insurance, provided that the Insured shall have 90 days from expiry of the Period of Insurance in which to notify the Insurer of any matter of which the Insured became aware during the Period of Insurance as existence of grounds for a Claim.

CLAIMS EXCESS

The Insured shall bear at his/her/its own risk five hundred dollars ($500) in respect of each Claim made under this Policy.

PREMIUM

Net Premium	*$1,412.09*	(includes agent fees of $110.00 and GST on fees)
GST:	*$130.21*	
SD:	*$128.91*	
Total Premium and Charges:	*$1,671.21*	

SIGNED BY A PERSON AUTHORISED BY THE INSURER

Australian International Insurance Ltd, Level 1, 369 High Street, Kew VIC 3101 (ABN 29 006 544 690)

Murray F. Nugent

COUNCIL COPY

2006-7002

MORGAN THOMAS PTY LTD
CONSULTING CIVIL & STRUCTURAL ENGINEERS
ACN 058 108 188

PO BOX 708 HARBORD NSW 2096
Ph & Fax: 999 77 913

14th October 2005

The Principal Certifying Authority

Compliance Certificate

Pursuant to the provisions of Part 4A Section 109C of the Environmental Planning and Assessment Act 1979 and Part 8 Section 138 of the Regulations 2000.

Hydraulic Engineering Design Certificate

- Project address: Lot 1 in DP 17768, No 107 Wimbledon Avenue, NARRABEEN NSW
- Proposal: Construction of a new single dwelling and splash pool.
- Development Consent No.: N0074/05
- Determination Date: 12/09/2005.
- Drawings, which are subject to this Certificate: Stormwater Drainage Drawings, labelled "Stormwater Drainage", by Thomas Lau, Chartered Professional Engineer, dated 10/10/05, drawing no. wimbledon107-4.dwg, consisting of sheets 1 and 2, revision 0.

I, Thomas Lau of Morgan Thomas Consulting Engineers, a Qualified Civil Engineer registered with the Institution of Engineers, Australia, NPER in the "Civil Category", hereby certify that the stormwater drainage hydraulic design has been designed and complies with:

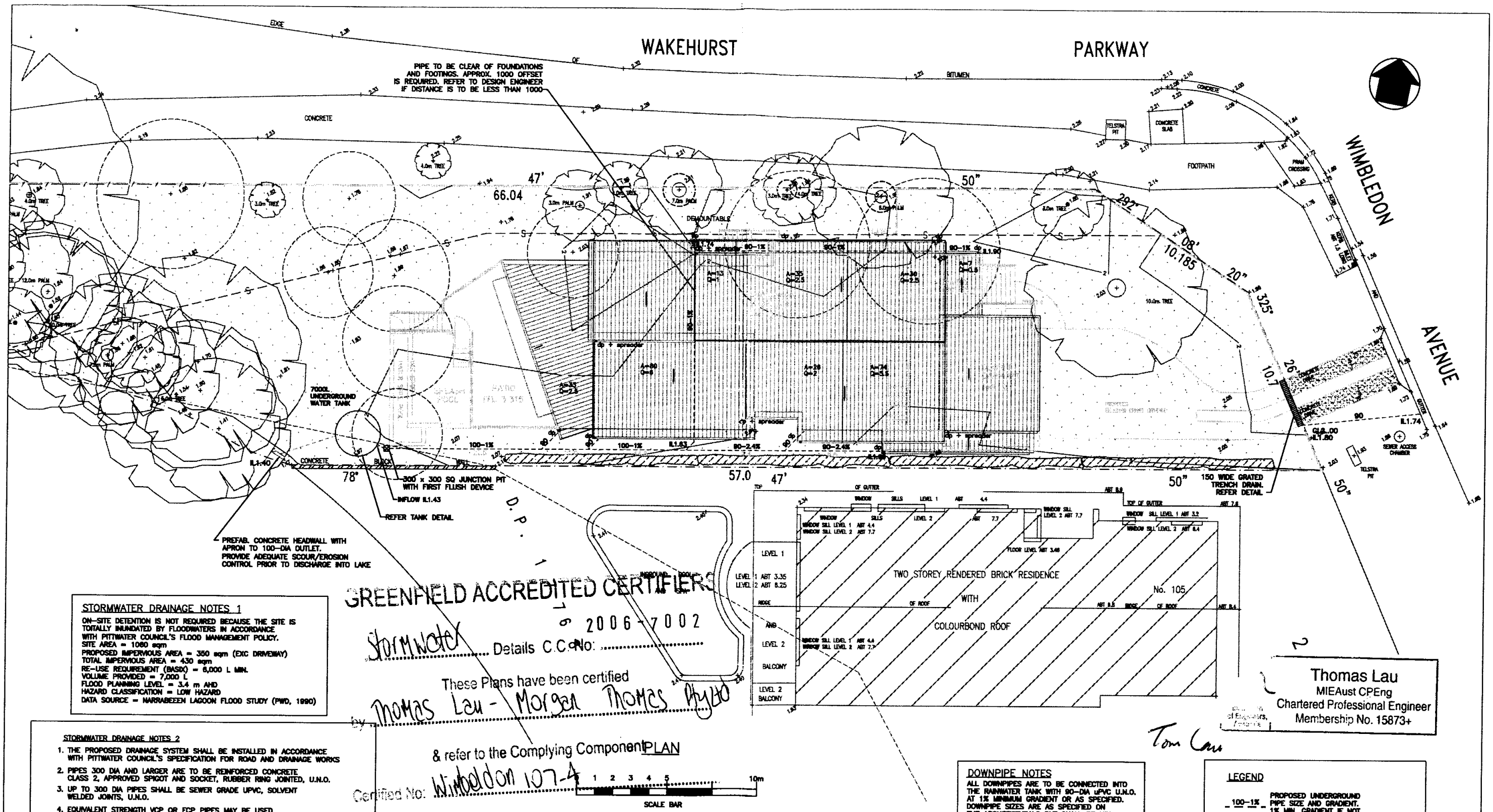
- Approved architectural plans drawn by Urban Form Designs, drawing no. DA-02 (issue C), DA-03 (issue B), DA-04 (issue B), dated February 2005.
- The development consent conditions: conditions B20.
- The relevant Australian Standards: Australian Rainfall and Runoff, A Guide to Flood Estimation 1987, volume 1.
- Pittwater Council's Flood Management Policy.

Certifier's Qualifications:
- Master of Engineering Science (University of N.S.W.)
- Bachelor of Engineering with honours (University of Technology Sydney)
- Member Institution of Engineers, Australia (membership no 158730)
- Chartered Professional Engineer, NPER (civil)

Certifier's address and contact details:
- 16 Parkes Road, COLLAROY NSW
- telephone no. 999 77 913, facsimile no. 999 77 913
- email address: lauthms@optusnet.com.au

signature: Tom Lau ..... date: 14/10/05

This Certification was issued without alteration or erasure.



GREENFIELD ACCREDITED CERTIFIERS
6 2006-7002
Stormwater Details C.C. No: .....
These Plans have been certified
by Thomas Lau - Morgan Thomas Phyland
& refer to the Complying Component PLAN
Certified No: Wimbledon 107-4

Thomas Lau
MIEAust CPEng
Chartered Professional Engineer
Membership No. 15873+

Tom Lau

STORMWATER DRAINAGE NOTES 1

ON-SITE DETENTION IS NOT REQUIRED BECAUSE THE SITE IS TOITALLY INUNDATED BY FLOODWATERS IN ACCORDANCE WITH PITTWATER COUNCIL'S FLOOD MANAGEMENT POLICY.
SITE AREA = 1060 sqm
PROPOSED IMPERVIOUS AREA = 350 sqm (EXC DRIVEWAY)
TOTAL IMPERVIOUS AREA = 430 sqm
RE-USE REQUIREMENT (BASIX) = 6,000 L MIN.
VOLUME PROVIDED = 7,000 L
FLOOD PLANNING LEVEL = 3.4 m AHD
HAZARD CLASSIFICATION = LOW HAZARD
DATA SOURCE = NARRABEEN LAGOON FLOOD STUDY (PWD, 1990)

STORMWATER DRAINAGE NOTES 2

1. THE PROPOSED DRAINAGE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH PITTWATER COUNCIL'S SPECIFICATION FOR ROAD AND DRAINAGE WORKS
2. PIPES 300 DIA AND LARGER ARE TO BE REINFORCED CONCRETE CLASS 2, APPROVED SPIGOT AND SOCKET, RUBBER RING JOINTED, U.N.O.
3. UP TO 300 DIA PIPES SHALL BE SEWER GRADE UPVC, SOLVENT WELDED JOINTS, U.N.O.
4. EQUIVALENT STRENGTH VCP OR FCP PIPES MAY BE USED.
5. PIPES SHALL BE LAID ON A 75mm SAND BED. THE TRENCH SHALL BE BACKFILLED WITH SAND TO 200mm ABOVE THE THE PIPE. WHERE THE PIPE IS LAID UNDER PAVEMENTS, BACKFILL THE REMAINDER OF THE TRENCH WITH SAND OR APPROVED RIPPED SANDSTONE COMPACTED IN 150mm LAYERS TO 98% STANDARD MAXIMUM DRY DENSITY.
6. PRECAST PITS MAY BE USED EXTERNAL TO BUILDINGS AND SUBJECT TO APPROVAL.
7. WHERE TRENCHES ARE IN ROCK, THE PIPE SHALL BE BEDDED ON A MINIMUM OF 100mm THICK CONCRETE UNDER THE BARREL OF THE PIPE.
8. WHERE PIPES ARE SMALLER THAN 300 IN DIA, ENLARGERS, CONNECTORS, AND JUNCTIONS TO BE USED SHALL BE PRECAST FITTINGS.
9. PIPES FOR RISING MAINS TO BE UPVC CLASS 4.5 AND TO AS 1477.
10. WHERE SUBSOIL DRAINS ARE TO PASS UNDER FLOOR SLABS AND PAVEMENTS, UNSLOTTED UPVC SEWER GRADE PIPES ARE TO BE USED.
11. CARE IS TO BE TAKEN WITH LEVELS OF STORMWATER LINES, AND GRADES SHOWN ARE NOT TO BE REDUCED, LEVELS ARE NOT TO BE ALTERED, WITHOUT THE APPROVAL OF THE DESIGNER.
12. GRATES AND COVERS OF STORMWATER PITS SHALL BE ABLE TO SUPPORT THE FOLLOWING LOADS :
    (a) LIGHT DUTY.....1 TONNE WHEEL LOAD
    (b) MEDIUM DUTY.....3.5 TONNE WHEEL LOAD
    (c) HEAVY DUTY.....9 TONNE WHEEL LOAD

GENERAL NOTES

1. THESE DRAWING(S) SHALL BE READ IN CONJUNCTION WITH THE RELEVANT ARCHITECTURAL AND OTHER CONSULTANTS DRAWINGS AND SPECIFICATIONS, AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCIES SHALL BE REPORTED TO THE ARCHITECT/ENGINEER FOR DECISION BEFORE PROCEEDING WITH THE WORK.
2. UNLESS NOTED OTHERWISE, DIMENSIONS SHALL NOT BE DETERMINED BY SCALING OFF THE STRUCTURAL ELEMENTS OR DETAILS ON THESE DRAWINGS.
3. ALL DIMENSIONS AND SET OUT SHOWN ON THE DRAWINGS SHALL BE VERIFIED ON SITE FOR THEIR CORRECTNESS BY THE BUILDER PRIOR TO THE COMMENCEMENT OF WORK.
4. THE BUILDER/CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION SHALL BE RESPONSIBLE FOR MAINTAINING THE STRUCTURAL ELEMENTS AND NEIGHBOURING STRUCTURES IN A STABLE CONDITION, AND THAT NO PART SHALL BE OVERSTRESSED.
5. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT SAA CODES AND BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITY.

SITEWORKS NOTES

1. ORIGIN OF LEVELS PROVIDED BY BYRNE AND ASSOCIATES PTY LTD
2. THE BUILDER SHALL VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO THE COMMENCEMENT OF WORK AND ANY DISCREPANCIES SHALL BE REPORTED TO THE SUPERVISOR/ENGINEER.
3. TOPSOIL SHALL BE STRIPPED FROM THE CONSTRUCTION AREA AND STOCKPILED ON SITE, TO BE LATER SPREAD OR DISPOSED OFF SITE, AS DIRECTED BY THE SUPERVISOR/ENGINEER.
4. ALL TRENCH BACKFILL MATERIAL SHALL BE COMPACTED TO THE SAME DENSITY AS THE ADJACENT MATERIAL.
5. ALL SERVICE TRENCHES UNDER VEHICULAR PAVEMENTS SHALL BE BACKFILLED WITH SAND OR APPROVED GRANULAR MATERIAL, TO THE UNDERSIDE OF THE PAVEMENT, AND COMPACTED TO 98% STANDARD MAXIMUM DRY DENSITY, IN ACCORDANCE WITH AS 1289 E1.1.

DOWNPIPE NOTES

ALL DOWNPIPES ARE TO BE CONNECTED INTO THE RAINWATER TANK WITH 90-DIA uPVC U.N.O. AT 1% MINIMUM GRADIENT OR AS SPECIFIED. DOWNPIPE SIZES ARE AS SPECIFIED ON THE ARCHITECTURALS BUT SHALL BE MIN. 50-DIA OR RECTANGULAR.
ALL PIPES UNDER DRIVEWAYS AND BUILDINGS SHALL BE SEWER GRADE.

LEGEND

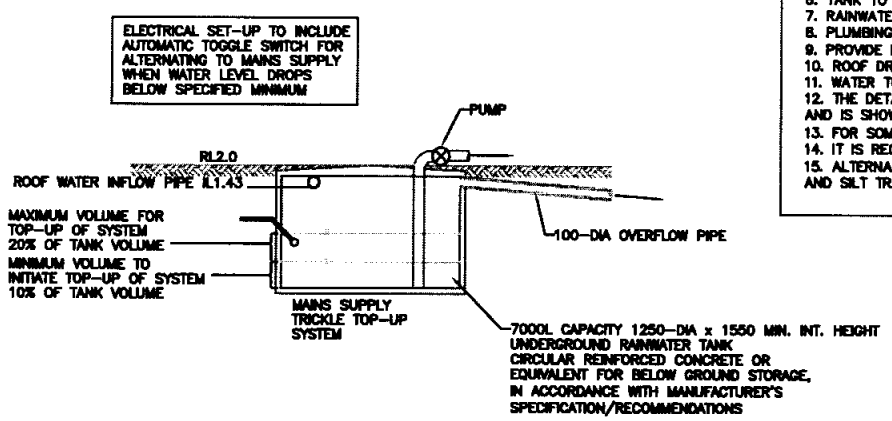
- 100-1% — PROPOSED UNDERGROUND PIPE SIZE AND GRADIENT. 1% MIN. GRADIENT IF NOT SPECIFIED
- A=74 — ROOF SUBCATCHMENT AREA IN sqm
- Q=5.5 — 100-YR ARI DISCHARGE ON ROOF IN L/s
- CUMULATIVE PIPE FLOW IN L/s
- 100-DIA uPVC OVERFLOW PIPE
- PROPOSED ROOF PLAN
- FLOOD AFFECTED LAND WITHIN THE 1% AEP (RL2.9 mAHD)

ISSUED FOR CONSTRUCTION CERTIFICATE

THOMAS LAU CHARTERED PROFESSIONAL ENGINEER	DRAWING No. WIMBLEDON107-4.DWG REVISION 0 - 10/10/05 SHEET 1 OF 2	CLIENT: TIM FITZPATRICK PROJECT: STORMWATER DRAINAGE No 107 WIMBLEDON AVENUE, NARRABEEN

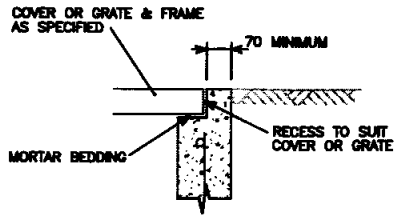
RAINWATER STORAGE TANK NOTES

1. TANK WATER TAPS SHALL BE MARKED "RAINWATER NOT TO BE USED FOR HUMAN CONSUMPTION"
2. MINIMUM TANK SIZE 7000 LITRES FOR DWELLING
3. RAINWATER TANK SHALL BE CONNECTED TO MAINS WATER SUPPLY AS BACK-UP
4. THE PUMP IS TO BE INSULATED IN ACCORDANCE WITH COUNCIL POLICY
5. PUMP SHALL PROVIDE MINIMUM 150 kPa PRESSURE
6. TANK TO BE USED FOR TOILET FLUSHING & OUTDOOR USE SUCH AS IRRIGATION
7. RAINWATER TANK TO BE CLEANED OUT EVERY 12 MONTHS
8. PLUMBING FROM THE WATER TANK IS TO BE KEPT SEPARATE FROM THE RETICULATED WATER SUPPLY SYSTEM
9. PROVIDE BACK-FLOW PREVENTION DEVICE AT MAINS WATER METER
10. ROOF DRAINING TO TANK MUST NOT CONTAIN LEAD, TAR BASED PAINTS OR ASBESTOS
11. WATER TO BE DRAWN FROM ANAEROBIC ZONE OF TANK
12. THE DETAILS OF THE PUMP, INLET, OUTLET, WATER MAIN AND FIXTURES ARE DIAGRAMMATIC ONLY AND IS SHOWN ONLY TO REPRESENT THE GENERAL ARRANGEMENT OF THE TANK
13. FOR SOME PROPRIETORY SYSTEMS, THE PUMP MAY BE LOCATED WITHIN OR ATTACHED TO THE TANK
14. IT IS RECOMMENDED THAT GUTTER GUARDS BE INSTALLED ON ALL ROOF GUTTERS TO SCREEN PRIMARY POLLUTANTS
15. ALTERNATIVELY, INSTALL A PIT IMMEDIATELY UPSTREAM OF THE FIRST FLUSH SYSTEM WITH A TRASH SCREEN AND SILT TRAP ARRANGEMENT TO REMOVE THE MAJORITY OF SOLIDS AND FLOATABLES BEFORE FIRST FLUSH



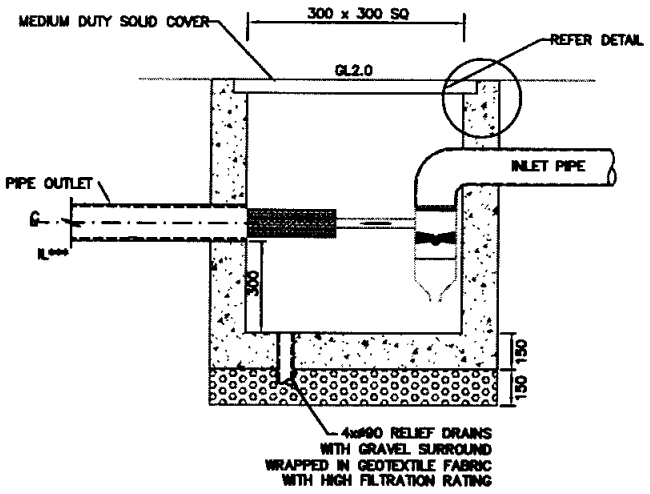
TANK ELEVATION

N.T.S.



PIT IN LANDSCAPE AREA DETAIL

N.T.S.



JUNCTION PIT WITH FIRST FLUSH DETAIL

N.T.S.

GREENFIELD ACCREDITED CERTIFIERS

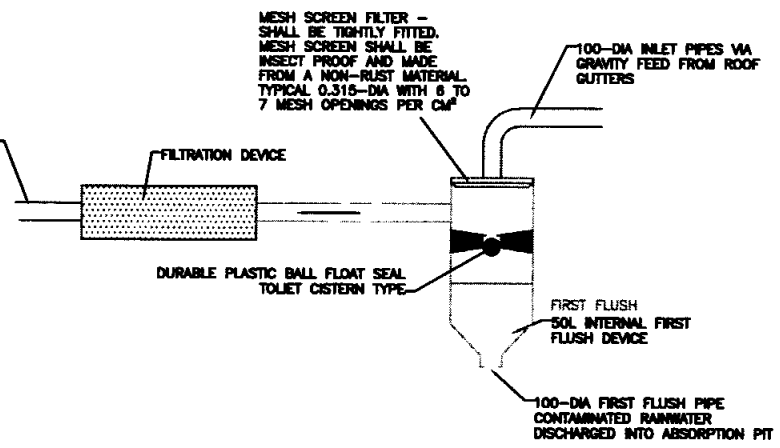
Stormwater Details C.C. No: 2006-7002

These Plans have been certified

by Thomas Lau - Morgan Thomas Phyllis

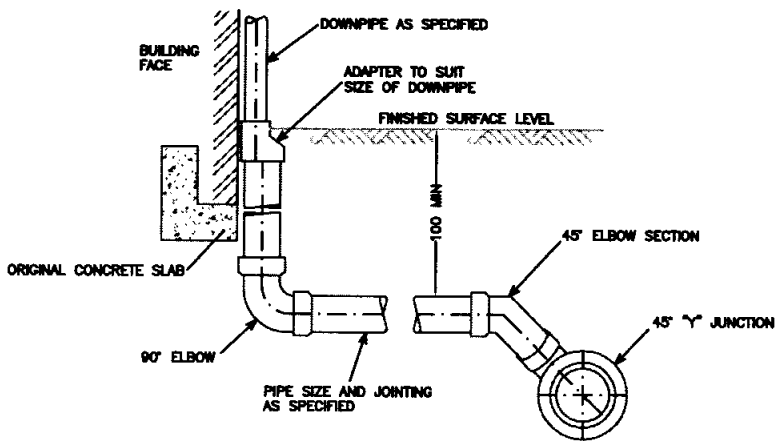
& refer to the Complying Component

Certified No. Wimbledon 107-4



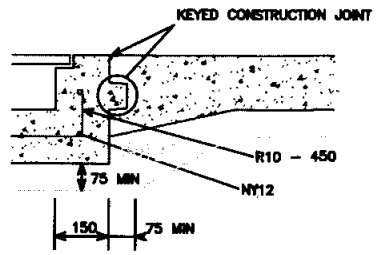
TYPICAL SCHEMATIC DETAIL OF FIRST FLUSH/FILTER SYSTEM TO RAINWATER TANK

N.T.S.



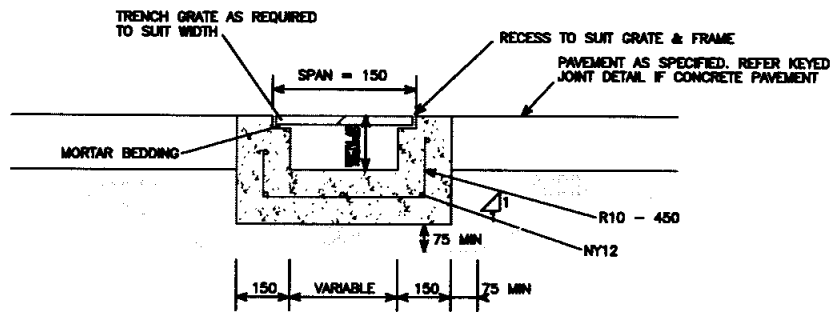
TANK PLAN

N.T.S.



RIGID PAVEMENT INTERFACE

N.T.S.

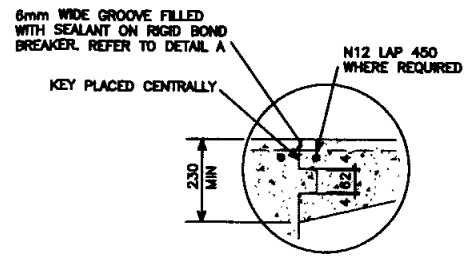


GRATED DRAIN DETAIL

N.T.S.

uPVC DOWNPIPE CONNECTION DETAIL

N.T.S.



KEYED CONSTRUCTION JOINT DETAIL

N.T.S.

TRENCH DRAIN NOTES

1. THIS DETAIL IS NOT REQUIRED IF PRE-FABRICATED TRENCH UNITS ARE TO BE USED.
2. TRENCH GRATING IS TO BE HEAVY DUTY CLASS.
3. THE REMOVAL OF TRENCH GRATING AT THE BOUNDARY IS AT DISCRETION OF COUNCIL.

ISSUED FOR CONSTRUCTION CERTIFICATE

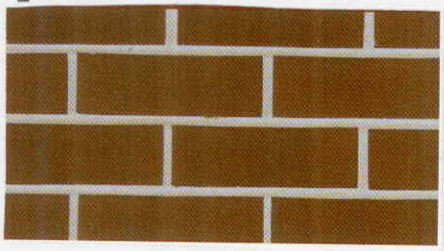
THOMAS LAU
CHARTERED PROFESSIONAL ENGINEER

DRAWING No. WIMBLEDON107-4.DWG
REVISION 0 - 10/10/05
SHEET 2 OF 2

CLIENT: TIM FITZPATRICK
PROJECT: STORMWATER DRAINAGE
No 107 WIMBLEDON AVENUE, NARRABEEN

External finishes for 107 Wimbledon Ave North Narrabeen.

2006-7002



CLADDING

COUNCIL COPY

SPECIFICATION

This is the plan/spec referred to in Greenfield Accredited Certifiers Certificate
2006-7002
Cert No: .....
Officer: Kieran Tobin
Accreditation No: 44

of works for the erection of

NEW HOUSE

for

MR. TIM FITZPATRICK

at

lot no 1 **D.P.no** 17768

107 WIMBLEDON AVENUE

NARRABEEN NSW

BUILDING TYPE

SINGLE DWELLING •	GARAGE •	OFFICE BUILDING •
DUAL OCCUPANCY •	ADDITION •	..... •
MEDIUM DENSITY UNITS •	RETAIL BUILDING •	..... •
VILLA OR TOWNHOUSE •	INDUSTRIAL BUILDING •	

CAVITY BRICK •	TIMBER FRAMED •	A.A.C.BLOCK/PANEL •
BRICK VENEER •	STEEL FRAMED •	MASONRY BLOCK •
SINGLE BRICK •	STEEL CLAD •	CONCRETE PANEL •

F/C SHEET ☐

ADDENDUM

DISTRIBUTORS; SOUTHspec PUBLISHING
72 BERRY STREET, NOWRA
P.O. BOX 3381, NORTH NOWRA 2541
Phone: (02)44214007 AH.(02)44460358
Fax: (02)44214007 AH.(02)44460773

REV. 14 – MAY 2001

SPECIFICATION

FOR THE ERECTION AND COMPLETION OF BUILDING AT: LOT No. 1 DP No 17768

HOUSE No. 107 STREET WIMBLEDON AVE SUBURB NARRABEEN

MUNICIPALITY / SHIRE / CITY PITTWATER COUNCIL

FOR MR./ ~~MRS./ MS.~~ TIM FITZPATRICK Hereafter called the Proprietor.

The builder must ensure that relative drawings, plans and construction comply with the prescribed construction, the Local Government Act, the Building Code of Australia and that the work and services are performed by the Builder to the satisfaction of the Proprietor and Lending Authorities.

INSPECTION NOTICE

This is to apply only if inspections are required by the Lending Authority. The building is to be inspected by the Society or Bank Representative at the following stages of construction and the Builder is to give the Lending Authority and Owner at lease (2) clear working days notice that inspections are required.

1. When trenches for footings have been prepared or rock surfaces scabbled and in the case of reinforced concrete footings , when reinforcement and depth pegs have been placed in position just prior to placing of concrete. Footings must not be commenced until the trenches have been inspected and approved by the Society Representative.
2. On completion of floor, wall and roof framing with noggins in position and veneer walling, but before flooring is cut down, roof covering is laid and wall linings and sheetings are secured.
3. When the internal wall coverings have been secured and fixing out commenced, apron mouldings must not be fixed until flashings have been inspected and approved.

4. ON COMPLETION OF BUILDING. The owner is cautioned that if works have advanced beyond these stages without the requisite notice being given and unsatisfactory conditions are discovered later, the offer of the loan may be withdrawn or the terms and conditions varied.

REGULATIONS AND NOTICES:

The builder is to comply with the Building Code of Australia 1996 as applicable to the particular State or Territory in which the building is being constructed and/or any amendment thereto and the requirements of legally constituted Authorities for local Government and/or Services. The Builder is to give all notices, obtain all permits and pay all fees required by such Authorities. If state regulations or provisions of the BCA have a different requirement from that indicated for any particular item in these standard specifications then that requirement of the regulations or provisions shall prevail

Where manufacturers materials, components, design factors and construction methods comply with the Performance Requirements of the B.C.A. these may be accepted by approval authorities as an alternative as per the Deemed to Satisfy Provisions.

INSURANCE:

Insurance of the works against fire will be effected by the Owner, The Builder shall at his own expense adequately insure against Public Risk and arrange indemnification in respect of his liability under the Workers' Compensation Act.

VISIT THE SITE:

Builders tendering are to visit the site and satisfy themselves to the nature and extent of the work, the facilities available and the difficulties entailed in the execution of the said works. No extra amount above the accepted price will be allowed because of work arising due to neglect of this precaution, or assumptions made in respect of levels or ground slopes.

LABOUR AND MATERIALS:

The Builder is to provide all materials,labour,fittings and plant required to construct and complete the work. Materials shall be of the standard specified and workmanship in each trade shall be performed by tradesmen of that particular trade and in conformity with current good building practice.

SET OUT:

The Builder shall be responsible for the accuracy and clear delineation of the site boundaries and location of the buildings there on. The Builder is to set out and maintain the works in accordance with the drawings. Figured dimensions to be taken in preference to scale.

PLANS AND SPECIFICATIONS:

Any work indicated on the plans and not in the specification or vice versa, and any item not shown on either plans or specifications but which is obviously necessary as part of proper construction and/or finish, is to be considered as so shown or specified and is to be duly done as part of the contract. Any variations to plans or specifications to be made by agreement only.

PLANS ON JOB:

The builder must at all times maintain on the job a legible copy of the plans and specifications,bearing the approval of the Municipal Authority concerned or Principal Certifying Authority.

EXCAVATOR - BCA part 3.1.

EARTHWORKS AND EXCAVATIONS:

All earthworks shall be designed and constructed in accordance with the guidelines of AS3798. Stormwater and other surface water drainage by underground piping or surface diversions shall be in accordance with AS/NZS3500.

All siteworks shall be in accordance with the Environmental Planning and Assessment Act and Regulations for siteworks for the erection of a building, safeguarding excavations, backfilling, preventing soil movement and supporting neighbouring buildings.

FOOTINGS AND PIERS: BCA part 3.2.2

Excavate for all footings,piers,etc.,to dimensions and minimum depth shown on plans or otherwise specified, or to depths necessary to secure solid bottoms and even bearing throughout similar strata. Bottoms of excavations to be level and stepped where necessary. Grade, fill and ram where necessary to receive concrete floors where shown on ground level.

At completion of foundations, all excavations to be filled, well rammed to ground level and surplus soil spread as directed. All seepage and soakage water to be effectively dealt with and diverted clear of the building. Excavate for and lay agricultural drains to back of walls retaining earth and to any other sections of foundations as may be necessary and/or directed.

ROCK EXCAVATIONS:

Should rock of any type be encountered in excavation of the works the cost of its removal is to be considered as an extra to the contract and charged for at a rate per cubic metre as indicated in the schedule of rates. The Proprietor is to be notified when rock is encountered in excavations.

CONCRETER - BCA part 3.2.3

All structural concrete shall be ready mixed and in compliance with AS3600, and unless otherwise specified on Engineers drawings, shall be of the following grades. For concrete in strip footings, piers and pads.....Grade 15

For concrete in slabs, beams, columns and other structural elements.....Grade 20 U.N.O.

The concrete shall be supplied by an approved firm and delivery dockets shall be kept on the job for inspection by the proprietor if he so desires. The concrete for minor works,where strength of concrete is not critical,such as paving on solid ground,may have a minimum compressive strength of 15MPA if unreinforced and 20 MPA if

reinforced.Alternatively,such concrete may be mixed on site where the aggregate proportions and water/cement ratio can be controlled so that the required compressive strengths can be obtained.

All concrete work shall comply with the AS3600. Maximum slump shall be 80mm unless otherwise specified by Engineer. Concrete shall be carefully handled and placed to avoid segregation and shall be adequately compacted by means of mechanical vibrators or rodding and spading to ensure maximum compaction.Reinforcing mesh shall be fabric to AS 1304 and all reinforcing bars mild steel grade unless otherwise specified.

FOOTINGS; BCA parts 3.2.3, 3.2.4 and 3.2.5

Where sites have soils or foundations of reactive nature or problem sites footings shall be approved by a practising structural engineer and in the case of known highly swelling soils or other unstable soils special precautions may have to be taken in the design and construction of concrete footings. In the case of concrete suspended floors to first floor it will be necessary for size of footings to be specified by a practising structural engineer. All reinforcements to be 2 layers F8TM for single storey work U N O, with 65mm cover to sides & bottom and 50mm cover at top, 10mm dia mild steel ties or ligatures at 1000 centres. Footing sizes to be as per AS2870 part 1.

Cross Sectional Dimensions of reinforced concrete strip footings for buildings with timber framed floors. For sites classified A or S according to AS2870.

Construction of Wall	Normal Thickness of Wall to be Supported (not more than)	Size of Concrete (width x depth)	
		For Stable Soil Foundations Class A	Other Foundations not subject to significant movement Class S
	(mm)	(mm)	(mm)
Brick,single storey with wall height not exceeding 4200mm excluding any gable.	270 110	400 x 300 300 x 300	400 x 400 400 x 400**
Brick, two storey with external wall height not exceeding 7200mm excluding any gable internal wall height not exceeding 7200mm	270	400 x 400	400 x 500**
**use 11TM reinforcement Top and Bottom			
Brick veneer, single storey with wall height not exceeding 4200mm excluding any gable	110	300 x 300	300 x 400
Brick veneer, two storeys with external wall height not exceeding 7200mm excluding any gable	110	300 x 300	300 x 400
Timber frame, single storey - foundation walling measured from the top of the strip footing - up to 1500mm high exceeding 1500mm and up to 3000mm high	110 110	300 x 300 300 x 400	300 x 400 300 x 400

Reinforcement for Strip Footings	Width of Strip Footing	Minimum Number of Main Wires per Layer using F8TM or F11TM Fabric	Minimum Number of 10mm Diameter Bars per Layer	Minimum Number of 12mm Diameter Bars per Layer
	300 400	3 4	3 5	3 4

Where wall thickness exceeds as specified above, increase footing width to maintain the offset and provide additional bar or bars so that bar centres do not exceed 200mm, or an additional width of trench mesh, maintaining in all cases the required concrete cover.

At completion of footing excavations fill to the underside of floor slab with approved hardcore so as to provide a minimum depth of 100mm. Such hardcore may be carried under minor interior footings if required. Cover areas as noted on drawings with waterproof membrane allowing sufficient at perimeters to extend membrane up face of footing to terminate under external brickwork.

Owners are advised that foundations and associated drainage of all buildings requires continuing maintenance to assist footing performance and advice is available in the CSIRO information sheet 10-91. It is the owners responsibility to maintain the site in accordance with this document.

TERMITE PROTECTION: BCA PART 3.1.3

Where the building is being erected in a prescribed termite area and protection is required by regulation of local government or state authority then protection against subterranean termites shall be installed in accordance with AS 3660.1. Details of method of protection to be used shall be submitted where required, prior to commencement of building works. Written certification, signed by the installer, that the method used and the manufacturers specification complies with the Australian Standard shall be provided to the relevant authority and owner where required. A durable notice must be permanently fixed in a prominent location in the building prior to its occupation indicating: 1. The method and date of installation of the system and the need to inspect and maintain the system on a regular basis. 2. Where a chemical barrier is used, the life expectancy as listed on the National Registration Authority label and recommended date of renewal. Note that AS3660.1 and BCA lists the minimum acceptable level of protection only. Owners and/or builders may specify and install additional protection if desired

CONCRETE FLOORS: BCA parts 3.2.3

Provide concrete floors where indicated on plans. Where not specifically detailed, floors are to be a minimum of 100mm thick, reinforced with No. F72 hard drawn reinforcing fabric set 32mm below top of concrete. Floor slabs to be full thickness and free from grooves and ridges. Finish surface in one operation as required for tiling or otherwise to fine finish with float or steel trowel and sponge. Thickness of floors shall be maintained under tiling recesses in all cases.

INTEGRAL FLOOR SLABS: BCA part 3.2.5

Grade whole area occupied by floor to a minimum depth as required to remove top soil and grass roots etc. Determine level of top of floor to habitable rooms, a minimum of 300mm above highest point of adjacent proposed external ground level (adjust for fill or general excavation as required) or as otherwise required by Local Council.

Excavate for perimeter and other main footings to minimum depths as shown on Engineers drawings or to depths necessary to obtain solid bottoms and even bearing throughout a similar strata. Allow for sufficient recess for brickwork if carried under main foorings so as to reduce the amount of concrete necessary, provided that the fill is retained from displacement under the footings (by a temporary earth bank or similar) and provided also that a minimum of 100mm depth of the same hardcore is provided under all footings in such case, roadbase or ungraded bluemetal is recommended as hardcore, coalwash is NOT to be used. At completion of footing excavations fill to the underside of floor slab with approved hardcore so as to provide a minimum depth of 100mm. Such hardcore may be carried under minor interior footings if required. Cover areas as noted on drawings with waterproof membrane allowing sufficient at perimeters to extend membrane up face of footing to terminate under external brickwork.

Reinforce to Engineers detail and pour in one continuous operation in concrete Grade 20 unless otherwise nominated.

Finish surface in one operation as required for tiling or otherwise to fine finish with wooden float or steel trowel and sponge.

Residential slabs and footings must be constructed in accordance with AS2870 as amended.

SUSPENDED REINFORCED CONCRETE SLABS:
All concrete slabs to separate areas within or adjoining a building generally of timber floor construction shall be suspended. Temporary formwork must be removed prior to final inspection. Permanent metal formwork approved by the lending authority may be used with slab sizes and reinforcement according to manufacturers recommendation. Suspended floor slabs to have minimum of 100mm bearing on at least two sides and spans are not to exceed 2100mm except where specifically detailed, reinforced with No. F82 hard drawn reinforcing fabric set 32mm from bottom. Solid fill forming may be used under concrete floors (eg.laundry, garage) adjoining the building providing that the level of the top of the slab is not less than 50mm below antcap and/or dampcourse level of the main building. For spans exceeding 2100mm, slabs supporting walls, cantilever slab floors or where beams and columns are used to support the slab, a practising structural engineers details shall be submitted with the drawings and specifications.
FORMWORK: All formwork for concrete shall be in accordance with AS 3610.
PRESTRESSED BEAM FLOORING:
Prestressed beams for areas to be constructed by this method shall be delivered to site and stacked for storage on timber packers to avoid damage and where stacked one above the other the timber packers shall be positioned in verticle lines.
Beams shall be purpose made by the manufacturer for this particular project, designed in accordance with AS3600. Beams shall be individually marked for their respective location on the job and positioned in the work to comply with manufacturers key drawing. Cutting or drilling into beams or modification in any way shall be done only with the express authority of the manufacturer or their site representative.
Seating for beams shall be true to line and level before positioning beams commences to ensure even,uniform bearing and such seatings shall be not less in length than shown on the drawing or as follows :

Brickwork - bearing not less than 100m	A.A.C. lightweight concrete
Steel - bearing not less than 70mm.	external walls - bearing not less than 140mm.
Concrete - bearing not less than 75mm.	Internal walls - full bearing across width of wall.

Spacing of beams and fibre cement infill panel placement shall be strictly to manufacturers detail. Topping slab concrete shall have a 28 day strength of not less than 20 MPA and thickness shall not exceed 50mm unless shown on the drawings. Reinforce with nominal F52 Mesh U.N.O.
Topping slabs shall be continuously cured for 7 days to prevent non structural cracking.
PATHS: (see AS 3727 for guide to residential pavement construction)
Provide paths as indicated on plans. Concrete to be as previously specified and surfaced with wooden float. Excavate for and lay paths to even grades, true lines and curves. Car tracks to be a minimum of 100mm thick and paths a minimum of 75mm. Provide expansion joints in paths at a maximum spacing of 1200mm with bitumen impregnated felt joining strips the full thickness of concrete with tooled V-joints above same.

BRICKLAYER - (construction of masonry building shall be as per AS3700) BCA part 3.3

CLAY BRICKS:
To be sound, hard, of well burnt clay and shale and comply with specifications AS1225 "Burnt Clay and Shale Building Bricks".
SAND LIME BRICKS:
To Comply with AS1654 "Calcium Silicate Bricks" and have a transverse strength no less than as per Specification AS1640 "Clay Bricks".
CONCRETE BLOCKS OR BRICKS:
To comply with AS1500 "Concrete Building Blocks".
SAND:
To be clean, sharp and free from all impurities. **CEMENT MORTAR:** To be one part fresh cement to 3 parts sand.
LIME MORTAR: BCA part 3.3.1.6
To be one part lime to 3 parts sand. Lime to be well slaked before use. **COMPO MORTAR:** To be one part cement, one part lime and 6 parts sand. All bricks to be well wetted before use. This not to apply to textured bricks. Footing courses to be grouted solid with cement mortar. All brickwork to be properly bonded. laid on full bed and all perpends filled. All piers are to be built solid and each course grouted as work proceeds. Carry up all work true and plumb to even gauge and in level courses the full height and thickness required. The brickwork faces above damp course level to be finished with neatly ironed or raked joints. Beds and joints to be kept to a reasonable thickness. Finish all other exposed brickwork faces with neat struck joints.
BUILD THE FOLLOWING IN CEMENT MORTAR: BCA part 3.3.1.6
All brickwork to underside of floor bearers level. All 110mm thick brickwork. All copings, steps, brick balustrade walls, sills, piers, wing walls, retaining walls. Brick Fences on alignment and/or brickwork under timber fencing also concrete blocks or bricks. **BUILD COMPO MORTAR:** All other Brickwork, including concrete masonry.
SLEEPER PIERS: BCA table 3.2.5.2
230 x 230mm up to 1.5 high, footings are to be two courses of 350mm work. Where pier height exceeds 1.5m up to a maximum of 2.4m footings are to be two courses of 470 work. and lower portion of pier to be 350 x 350. Concrete footings must be 500mm square and 200mm thick for an effective supported area of not more than 20m^2 .
VENEER WALLS: BCA 3.3.1.2
To be 110mm Brickwork built in Compo Mortar on foundation walls as previously specified. Internal faces to be 38mm from timber frames. Build in 3mm galvanised wall ties opposite each alternate stud, four courses above level of bottom plate, then every fourth course and spaced not more than 460mm horizontally and 610mm vertically or 610mm horizontally and 460mm vertically. Ties to be left open for attachment to studs. A cavity space of between 25mm and 50mm must be maintained throughout. Cavities and weep holes to be clean and clear at damp course level. All mortar droppings to be caught on paper or other material and removed before internal linings are fixed. Mortar joints on inside face walls to be flush with brickwork.
SPECIAL WALLS: (if shown on plans)
Walling not of timber. Veneer on-timber or masonry to be constructed as per Structural Engineers Detail and Certificate.
SINGLE LEAF MASONRY: (Garage Walls etc.)
Footings as per BCA part 3.2.5.1 engaged piers and reinforcing to be as per part 3.3.1.
ENGAGED PIERS:
To be minimum of 230 x 110, spaced at not more than 1.8m centres to support floor bearers and at similar centres to stiffen walls supporting concrete slabs.
ACCESS:
Adequate access in the external foundation wall must be provided with a weatherproof lockable door and crawl access is to be provided to all under floor areas.
VENTILATION: BCA part 3.4.1
Sub-floor areas shall be ventilated by means of evenly distributed openings with an unobstructed area of 7300mm2 per lineal metre of external wall. Where particle board flooring is used the unobstructed area shall be increased to 7500m2 per lineal metre and evenly spaced. Ventilation of internal walls shall be a minimum of 22000mm 2/m run of wall. Vents to be immediately below bearers and similarly provide vents under verandah floors and suspended floor slabs. Sufficient cross ventilation to be provided through all walls below floors. No section of the under-floor area should be so constructed that is will hold pockets of still air. Room ventilation above floor must be provided in accordance with Good Building Practice. Appropriate special provision to be made where a gas bath heater or gas copper is installed. Ventilation may be varied by Local Council in areas of excessively damp ground or areas subject to flooding.
BRICK REINFORCEMENT:
In full brick cavity walls at two courses above level of the highest opening built into each 110mm thickness one continuous strand of 64 wide galvanised metal reinforcement lapped 100mm at joints and full width of layer at intersections.
ANT CAPS:
To all brickwork and piers, at the level of underside of floorbearers, ant capping of 0.5mm gauge galvanised steel or other approved metal is to be set, projecting 38mm beyond the internal faces of all brickwork and turned down at a 45 degree angle, lapped 13mm and soldered or crimped at all joints and corners so as to provide a continuous and effective barrier against termites throughout the length of the material. Whole of house protection against subterranean termite attack shall be installed in accordance with AS 3660.1.
BRICK TIES: BCA part 3.3.3.1
Wall ties complying with AS2699 shall be used for all tie requirements in brick or masonry construction. Corrosion protection information on wall ties should be carried out as referenced in AS3700.

STEPS:

If shown on plan in bricks to match other exposed brickwork. To be built in solid work or where side walls are provided on consolidated filling. Treads are to be brick on edge, or pre cast concrete units with a minimum of 255mm and maximum of 396mm width and a maximum of 190mm and minimum of 115mm rises.

LINTELS: BCA part 3.3.3.4 and 3.3.3.5

Provide galvanised mild steel angle iron or bars of the following sizes over openings to each 110mm thickness (or part thereof) of brickwork, all having a minimum of 110 bearing each end. All lintel angles to be placed with the longer leg vertical.

UPPER STOREY	EXTERNAL WALLS	INTERNAL WALLS	LOWER STOREY OR BASEMENT	EXTERNAL WALLS	INTERNAL WALLS
Up to 1210mm span	One 76mm x 10mm bar	One 76mm x 10mm bar	Up to 910mm span	One 76x 76x10 angle	One 76x 76x10 angle
Up to 1570mm span	One 76x76x10 angle	One 76x51x10 angle	Up to 1210mm span	One 102x 76x10 angle	One 127x 76x10 angle
Up to 2410mm span	One 127x76x10 angle	One 127x51x10 angle	Up to 1810mm span	One 152x 76x10 angle	One 152x 89x10 angle
Up to 3010mm span	One 152x89x10 angle	One 152x89x10 angle	Up to 2410mm span	One 152x102x10 angle	One 152x102x10 angle

FIREPLACE CHIMNEY and FLUES: BCA part 3.2.5.5 and 3.7.3

Reinforced concrete footings 200mm wider all round than construction to be provided. Build 110mm brick wall and/or corbel courses to support hearth. Non combustible material to be used for upper surface of hearth with a minimum thickness of 155mm and shall extend not less than 300mm beyond the front of the fireplace opening and not less that 150mm beyond each side of the opening. Local council may vary this requirement. Upper surface of hearth not to slope away from grate. Provide fireplace and chimney in position as shown and to the dimensions on plan. Mild steel bars or angles of suitable sizes and with a 110mm bearing at each end to support work over openings. Up to the level of 300mm above the underside of the arch or lintel, the back and sides of the fireplace to be constructed in two separate sections of solid masonry minimum 190mm thick not including cavity. Concrete masonry not permitted in construction of inner section, balance of walling to be minimum of 90mm thick. Flue to be rendered minimum 12mm thick. Mix; 1 cement, 2 lime, 10 sand or L.C. approved material. Chimney stack is to be not less that the height of the main roof ridge and is to be built in compo mortar. The flue is to be 250 x 250mm or one tenth of the area of the fireplace opening, whichever is the greater, gathered over to break daylight and pargetted to the full height. An 0.6mm galvanised steel tray, in one piece, holed for flue is to be set at level of one course above roof covering on the high side of the roof. The internal edges are to be shaped to form a quadrant gutter 25mm wide, sweated at corners. The tray is to project a minimum of 25mm beyond the external faces of brickwork turned up and/or down as required. Where the tray is turned up, a clearance of at least 6mm is to be maintained between the brickwork and the tray. Provide weep holes by leaving open vertical joints in brickwork above tray. Rake joints in brickwork ready to receive flashing to be provided by Plumber. A loose brick must be left on the back of the chimney stack. This brick must not be set until after the tray has been cleared of all mortar droppings. Where a solid fuel burning appliance is proposed for a class 1 or class 10 building, installation is to comply with AS 2918.

DAMPCOURSE: BCA part 3.3.4

Provide a continuous run of L.C. Approved dampcourse material to full width of wall thickness on all brickwork at level not higher than bottom of floor bearers and engaged piers. Dampcourse material is to be run in long lengths, lapped minimum 100mm at joints and full width at all intersections. To wall surrounding concrete and/or solid floors an additional run of dampcourse is to be laid, one full course above floor level and stepped down to meet lower dampcourse where other walls abut walls of bathroom, shower recess or laundry. Damp proof courses and flashings shall be installed to give performance as specified in AS/NZS 2904.

VERMIN PROOFING:

13mm mesh galvanised bird wire to be built into brickwork and taken across cavity and secured to bottom plate.

FLASHINGS:

L.C. approved dampcourse material to be built in under all window sills 25mm at back of wood sill and 50mm at each end of same. Flashing to be bent down across cavity and built 25mm into veneer wall. L.C. approved dampcourse material to be built in over all exposed window and external door openings. Flashing may be omitted in the last part under special circumstances.

WEEP HOLES;

Perpend joints are to be left open in exterior brick walls spaced approx. 600mm in course immediately over flashings of all exposed openings and to brick retaining walls, fender walls etc. as required. See BCA part 3.7.4 for protection of weep holes in Bush Fire Areas.

RETAINING WALLS:

Retaining walls not specifically detailed, and foundation walling required to retain earth, are to be a minimum of 230mm thick, up to a height of 750mm of retained earth. Cavity walls used to retain earth are to have the leaf adjacent to the retained earth a minimum of 230mm thick, to a maximum of 900mm of retained earth height. All to be properly bonded (see 'Bonded Walls') and provide with a properly constructed agricultural drain to the earth side of retaining wall. For walls in excess of the above heights of retained earth, an Engineers detail will be required.

BONDED WALLS:

Solid brick walls more than one brick width which are used to retain earth or are otherwise noted as 'Bonded Walls', shall be bonded throughout the thickness of the wall by either header bricks or equivalent tying. Where header bricks are used every sixth course shall be a header course or there shall be at least one header or equivalent tie to every 0.13sq metres (every third course at 480mm centres) Walls 350mm or more in thickness shall have overlapping headers or ties to provide a continuous tie through the wall.

CAVITY WALLS:

Walls indicated as cavity walls to be constructed with two leaves 110mm thick spaced nominally at 60mm apart (not less than 40mm or in excess of 76mm). Connect the two leaves with wall ties as per AS2699 set nominally 720mm apart (max.900mm in every fifth course) breaking bond. Ties to be embedded a minimum of 50mm in each leaf. Keep ties clean of mortar droppings and cavity clear as work proceeds.

STRAPS: BCA part 3.3.3

To full brick cavity walls, secure door and window frames with 1.6mm galvanised iron straps set in brickwork. Straps to be 25mm wide and at least 300mm long, where practicable and spaced at a maximum of five courses apart. Set 25mm x 1.6mm galvanised iron straps 1800 apart and 1200mm down cavity with ends turned 75mm into brickwork to secure wall top plates.

COMPLETION:

Clean all cavities. Wait upon and make good after other trades. Replace all damaged and defective bricks. Clean all exposed brickwork with diluted spirits of salts, or as otherwise recommended by brick manufacturers, wash down with clean water and leave free from cement and mortar stains.

BRICKLAYER (Concrete brick) A.S. 1346 - BCA part 3.3.1

MORTAR: For normal conditions mortar to consist of: Above Dampcourse: 1 part cement, 2 parts lime or lime putty, 9 parts clean sand. Below Dampcourse: 1 part cement, 1 part lime or lime putty, 6 parts clean sand.

Mortar mixes must comply with A.S. 3400 (BCA parts 3.3.1.6 and 3.3.1.7

The substitution of other plasticisers for lime is not recommended. Under no circumstances should the proportion of cement be increased.

GENERALLY:

Bricks are to be dry when laid in wall. When delivered on site bricks should be stacked openly and off wet ground and where practicable to be covered in wet weather. Footing courses to be grouted solid. All brickwork to be properly bonded, laid on full bed and all perpends filled.

JOINTS: BCA part 3.3.1.7

Finish all external brickwork and internal feature walls with raked joints. Finish all other brickwork with neat struck joints. U.N.O.

JOINT REINFORCEMENT AND CONTROL JOINTS: BCA part 3.3.1.8 and 3.3.1.9

In addition to reinforcement over openings as later specified provide joint reinforcement in bed joints at vertical spacings not exceeding 600mm. Control joints, providing a continuous vertical separation through the entire thickness of the wall, are to be provided where indicated on plans or where walls exceed 9m in length, as close as practical building will permit. Reinforcement not to extend across control joints.

AUTOCLAVED AERATED CONCRETE BLOCKS (Hebel A.A.C.' or similar):

GENERALLY: Lightweight blockwork shall be Autoclaved Aerated Concrete blocks consisting of sand, cement and lime and shall be installed to areas as indicated on drawings. Site provisions for storage of materials and for the mixing of adhesive shall be as recommended by the manufacturer.

WORKMANSHIP

Fixings, fastenings, anchors, lugs and the like shall be of a type approved by the manufacturer and shall transmit the loads and stresses imposed and ensure the rigidity of the assembly. Block laying shall be in accordance with the manufacturers current published specifications.

TOLERANCES:

Maximum planar misalignment shall be 2mm along butt joints. The thickness and width of walls shall not vary by more than 5mm from design sizes. Deviation from plumb, level or dimensional angle must not exceed 5mm per 3.5m of length of member or 6mm in total run in any line.

INSTALLATIONS:

All lightweight blockwork shall be installed using thin bed adhesive mortar to all horizontals and perpends. The first course must be made true and level using a normal thick bed mortar with thin bed adhesive to fully seal the perpends. All thin bed adhesive shall be applied using a recommended notched trowel to obtain an even distribution of adhesive to achieve joint thickness of 2-3mm. All lightweight blockwork shall be laid in a format that the vertical joint of the lower course must be staggered at least 100mm relative to the vertical joint of the overlaying course. A slip/joint bond breaker must be installed between the first course and the foundations or slab on all internal and external walls to allow for differential movement between the blocks and the supporting structure. Build in as necessary all flashings, reinforcements, arch bars, lintels, frames, straps, bolts, lugs, wall ties, metalwork, precast units, sills, partitions, joists and the like. Care fully set out and leave openings for other trades to eliminate cutting.

CONTROL JOINTS: BCA part 3.3.1.8.

Control joints should be built into walls at no greater than 8m centres and at locations in accordance with the recommendations of the manufacturer. Masonry expansion ties shall be installed across the joint every third course.

CLEANING:

Take care at all times to keep walls clean. Remove excess adhesive progressively. Clean strictly in accordance with manufacturers recommendations.

COMPLETION:

On completion clean out all blocks, mortar, droppings, debris etc. and remove all scaffolding, make good all put-log holes and other blemishes and leave all work in perfect condition and protect until handover.

CONCRETE BLOCK and REINFORCED MASONRY: AS 3700 - BCA part 3.3.2

GENERALLY: All masonry units shall comply with AS1500 'Hollow Load Bearing Concrete Units'. Masonry shall be stacked on planks off the ground and in wet weather shall be covered with tarpaulins or otherwise kept dry. At the end of each days work the top of the wall shall be covered with tar paper, polyethylene sheets or by other means protected from becoming excessively week. Masonry units shall not be dampened prior to laying, but shall be laid in dry state.

MORTAR: BCA PARTS 3.3.1.6 AND 3.3.1.7

Mortar shall comply with AS123 in all respects, as it applies to property specifications. Plasticisers may be used when approved and where tests show the mortar meets the requirements of these specifications.

CONSTRUCTION BEDDING:

All face and end joints shall be fully filled with mortar and joints shall be squeezed tight. Slushing of mortar into joints shall not be permitted. The first course of blocks shall be laid in a full bed or mortar.

JOINTS:

Joints on all exposed surfaces shall be as specified. The joint shall be formed by striking the mortar flush and after it has partially set, tooling with the proper shaped tool to adequately compact the surface. The tool shall be of sufficient length to form a straight line free from waves. Internal joints shall be ironed. Where flush joints are left exposed, they shall be first compacted, then repointed and excess mortar removed. Joints shall be 10mm thick unless otherwise specified or directed.

PATTERNS AND BOND:

All walls shall be built plumb, true and level, to the thickness shown on the plans and with the pattern indicated, or running bond U.N.O.

CONTROL JOINTS:

Shall be located where shown and shall form a continuous vertical break from top to bottom of wall or from bond beam. Provision shall be made for adequate lateral stability. Joint shall be filled with mortar, raked back 16mm and pointed with a non-hardening plastic filler. No reinforcing shall be carried across control joint.

JOINT REINFORCEMENT: BCA part 3.3.2.3.

Reinforce every 600mm in height and in the two courses immediately above and below window openings. Lap mesh at least 150mm at all joints and intersections except at control and expansion joints where a slip joint must be provided.

BRACING DURING CONSTRUCTION:

Masonry walls constructed in locations where they may be exposed to highwinds during erection shall not be built higher than ten times their thickness unless adequately braced, or unless provision is made for prompt installation of permanent bracing such as intermediate floor or roof structure. Back filling shall not be placed against foundation walls or retaining walls before mortar or grouting has sufficiently hardened, or before wall has been permanently braced to with stand horizontal pressure.

WEATHERPROOFING: BCA part 3.3.4

All concrete masonry walls exposed to the weather or below ground level shall be adequately weather proofed or water proofed, using an approved paint or other coating and applied in accordance with the directions of the manufacturer.

CLEANING:

During the progress of the work, every effort shall be made to keep walls, that are to be left exposed, clean. Mortar smears shall be allowed to dry for a short period and shall then be promptly removed by trowel or wire brush or both. Care shall be taken to avoid damage to the mortar joint when brushing. Mortar burrs shall be promptly removed. At the conclusion of the work, walls shall be cleaned down, all scaffolding and debris removed and the wall left in good clean condition.

CARPENTER

GENERALLY:

All timber shall comply with the appropriate standard as listed below. Timber sizes to comply with AS1170.2 for serviceability and Design Wind Gust Velocities (permissible stress) of 33 M/s minimum. Substitution of some members may be required for higher Gust Wind Velocities and advice of local authorities Building Department or Structural Engineer should be sought as whether design to W41N or higher is required.

STRESS GRADES:

Visually Stress Graded Timber: Timbers whose species or place of growth is known may be visually graded for quality in accordance AS 2082.

Mechanically Stress Graded Timber of required stress grade according to AS/NZS 1748 may be used regardless of species.

Seasoned Timbers: All timber shall be regarded as seasoned only if its moisture content does not exceed 18 per cent.

FRAMING : BCA part 3.4.3.

Timber sizes shown in tables in this specification are based on AS1684.4 Simplified Non-cyclonic areas with restrictions as follows: Maximum wind classification N2 (33m/s) - maximum roof pitch 30° - maximum building width 12.0m – maximum rafter overhang 750mm. – maximum wall height at ext. walls, floor to ceiling 2400mm. Where the building requirements exceed these restrictions the timber framing shall comply with AS 1684.2 1999.

NOTE: for wind classification N3 (W41N) and N4 (W50N) Non-cyclonic areas with building widths 12.0m and up to 16.0m and with roof slopes exceeding 30° and up to 35°, design according to AS1684.2 1999 is required

FLOOR FRAMING:

Ground floor timbers shall be only of hardwood, cypress pine or pressure treated Radiata or Canada Pine below a height of 300mm above finished ground level and must not be built into brickwork. Subfloor ventilation shall conform to BCA part 3.4.1

ANT CAPS:

To all brickwork and piers, at the level of underside of floorbearers, and capping of 0.5mm gauge galvanised steel or other approved metal is to be set, projecting 38mm beyond the internal faces of all brickwork and turned down at a 45 degree angle, lapped 13mm and soldered or crimped at all joints and corners so as to provide a continuous and effective barrier against termites throughout the length of the material. All termite protection shall be in accordance with AS 3660

BEARERS: (Note new ground surface to u/side of bearer height as required by AS 3660.1).

Bearers should be laid in straight and normally parallel lines with top surfaces arranged to give level bedding for joists. Unless specifically noted as otherwise, bearers shall be located directly under all loadbearing walls, except where walls are located at right angles to line of bearers, in which case piers or other approved supports shall be provided for bearers at points where they cross under such walls. Bearers having minor excesses in depth shall be brought to required level by checking out underside over supports. Packing is to be avoided but where there is no alternative, corrosion resistant and incompressible sheet material over full area of contact shall be permitted. Bearers having not more than permitted spring shall be placed so that they tend to straighten under loading. Joints in bearers, unless specifically detailed otherwise, shall be made only at points of support on which adequate bearing for both members can be provided and the joint shall be secured by means of bolting or spiking against displacement or separation.

JOISTS:

Joists shall be laid over bearers in straight and normally parallel lines with top surfaces set accurately to a common level to receive flooring. Underside of joists having minor excesses in depth to be notched out over bearers to obtain required common level. Packing may be employed if unavoidable similar to that for bearers, such packing to be securely fixed. Joists having not more than the permitted amount of spring shall be laid so that they tend to straighten under loading. Joints, unless specifically detailed, shall be made only over bearers or other supports. Joints occurring in joists which parallel and support wallplates shall be made at points of support which provide adequate bearing for both ends which shall be butted or scarfed to maintain a straight line. Posts shall be securely skew nailed;, from both sides to bearers at all points of support.

Where floor joists abut solid masonry or concrete walls, they shall be supported on timber wall plates or bearers carried on walling, off-sets or attached piers; where such method is not practicable and height of floor is more than 1800mm above ground the ends of joists or bearers may bear in pockets formed in the wall which allow at least 12mm clear air space at sides and ends of members and provide solid bearing at least 100mm in depth.

Where the unsupported span of deep joists exceed 2700mm, 50mm x 50mm herringbone strutting or solid blocking of 25mm min thickness shall be provided in continuous rows between joists at not more than 1800mm centres.

STUDS:

Housings or notchings to accept bracing, noggings, trimmers, lintels etc. may be made in any face of stud, providing that their depth does not exceed 10mm and the studs are designed as notched studs. Notches into stud depth are to be max. 20mm for diagonal cut in bracing only and providing also that where notchings or housings are made on opposite faces of the same stud, they shall be spaced not less than twelve times the width of the stud apart.

A stud to the side of openings may however have material equal to half its depth removed over an area sufficient to accept a head or lintel member, providing always that the head or lintel member continues through and is housed into the next stud adjoining the jamb stud.

Studs to sides of openings and studs supporting concentrated loads shall not be cut or notched except as permitted above. Junctions of loadbearing walls shall be framed with three studs. Well blocked and spiked together or with a solid post equal to the depths of intersecting walls.

In brick veneer construction framing of wall junctions with two studs is acceptable providing that such studs are joined at not less than 800mm centres along their height by securely spiking blocking pieces exceeding 200mm in length. Where corners are interrupted by windows the structural corner mullion shall be not less than 100mm x 100mm timber, or equivalent steel section.

Studs to side of openings shall have a depth equal to that of the common stud, except that double studs may be used providing that their total thickness is not less that the required single stud and that the studs are well spiked together. All notchings in studs sshall comply with AS1684.4 table 6.1.

HEADS:

Heads shall be accurately checked into studs at least 18mm for openings up to 3600mm wide. Alternatively where the thickness of the head is half the width of the stud the head may be checked through the thickness of the jamb stud . A secondary common stud or double studs may be used to openings as support to heads in lieu of checking. Where the opening is 3600mm or over and the thickness of the head is half the width of the stud, the head shall be carried through to the adjoining stud or a secondary stud used. Heads shall have a stress grade of F8 or better. Where depth exceeds 150mm timber shall be seasoned having a maximum moisture content of 18 per cent. Heads shall be placed on edge.

WALL PLATES:

Wall plates shall be in long lengths to each panel or walling and shall be not less than the size or lower in grade than common studs used in the particular wall section. Trenching shall be max. 3mm deep unless the design uses span tables based on remaining depth. Where plates are machined gauged to a uniform thickness trenching may be omitted. Where due to the use of different centre-to-centre spacing for studs and floor joists or for any other reason the points of support offered by joists, blocking pieces or concrete floors is not vertically over studs then a 75mm thick top plate shall be used in combinations as shown in tables.

Where roof trusses supporting tiled roofs are placed more than 50mm from wall studs, minimum thickness of top plates shall be 75mm unless otherwise specified hereunder. Where top plates are required to bear a major load arising from a roof strut, strutting beam, long span deep joists or the like, such loading shall be only at points immediately above a supporting stud, post or column. Where this is not practicable plate is to be adequately stiffened and the load distributed to adjoining studs by means of super imposed blocking pieces, close noggings from below or other approved means.

Where bottom plates are required to carry a stud to the side of an opening or a stud bearing a major load mentioned above the plates shall be supported by a joist, a blocking piece or a concrete floor slab directly beneath the point or points at which such studs are located.

NOGGINGS:

To be fixed between studs at not more than 1350mm centres. Where wall cladding is to be jointed thereon, noggings are to be 38mm thick and finished flush with the face of the stud. Otherwise noggings may be 25mm thick and finished not more than 6mm behind the face. In all cases depth is to be not less than three quarter of the stud depth. Noggings shall not be off set more than their own width from a straight line.

EAVES BEAMS AND VERANDAH PLATES:

Eaves beams and verandah plates shall be provided to support rafters or trusses over full height openings or recesses in walls or over verandahs or porches covered by main roof structure. Any reduction in nominal size through mill dressing or scalloping shall be allowed for so that the minimum size listed is not reduced. The ends of eaves beams and verandah plates that are supported on stud wall shall be carried by studs or stud groups as for heads for equivalent spans. End fixing shall provide resistance to uplift or displacement. Verandah Posts to be not less than 100mm x 100mm in timber F11. If supporting roof loads they shall be as per AS1684.2.

ROOF FRAMING:

Pitch of roof is to be as shown on plans and length of rafter to longest ridge to be gauged to suit full tile courses.

Roof timbers are to be seated on timber wall frames, positioned so that they are adequately supported. Where supported on masonry walling, they are to be attached to timber wall [plates of minimum dimensions 75mm x 38mm unless anchored directly to masonry. Wall plates to be secured to masonry as previously specified under bricklayer, where straps are used such straps are to be drawn snugly over and secured to top of plate. Straps or similar fastenings to be spaced at maximum of 1800mm for tiled roofs and 1200mm for sheet metal roofing.

CEILING JOISTS:

Joists shall be in single lengths where practicable, positioned beside and in direction of main rafters where practicable.

Secure to hangers with 35mm x 32mm timber cleats, MGPIO (seas.), strapping of 25mm x 1.7mm (16gge) galvanised iron or equivalent fasteners. Provide ceiling joists as shown in tables or AS1684.4 supported from hanging beams so that their span dies not exceed 2.4m where joist is continuous over two spans, otherwise reduce span to 2.lm. Provide ceiling battens 38mm x 25mm at 450 centres in timber grade F4 or better where required.

HANGING BEAMS:

End bearing of hanging beams shall be the full width of wall plates and they shall be positioned either directly over a stud or their load adequately distributed to stud by intermediate blocking or local reinforcement of wall plate. Where length of hanger exceeds 4.8mm the hanger is to be supported by a beam as for Strutting Beams and the size of hanger is to be governed by new span. (Roof not to be strutted off hangers or beam supporting hanger).

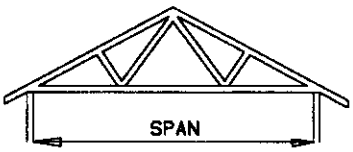
COMMON RAFTERS:

Rafters are to be birdsmouthed over plates, accurately cut and fitted, positioned beside ceiling joists where practicable and secured by double nailing at all parts.

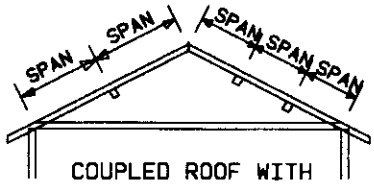
RIDGE BOARDS:

Ridge boards used in coupled roofs of simple construction, where they are not required to be strutted or propped and where opposing pairs of rafters are not separated by more than their own thickness at either side of their ridge junction, shall be 50mm greater in depth than rafters x 19mm thick. Otherwise they shall be 50 greater in depth and 35mm thick

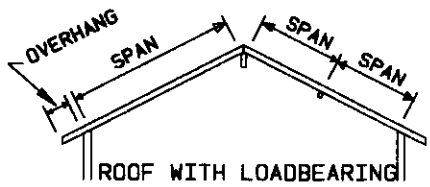
VALLEY BOARDS:
Shall not be less than 19mm thick and of sufficient width to adequately support valley gutters.
UNDERPURLINS:
Underpurlins shall be in single lengths where possible and in straight runs at right angles to direction of rafters. Where splices cannot be avoided, joint shall be halved, lapped and spiked together at point of support. Ends of underpurlins shall not project (cantilever) beyond a support by more than 25 per cent of span distance of normal supports.
STRUTTING BEAMS:
Strutting beams may extend in any direction in roof space so long as their ends are supported on load bearing walls. Where supported by stud walling the beams shall land either directly above a stud of adequate size or their load shall be distributed over two or more studs by blocking or reinforcement of wall top plates. An initial clearance of 25mm shall be provided between underside of beams and bottom of ceiling joists. Loading of strutting beams over openings shall be avoided unless lintel above opening is sized to carry additional load.
WIND BRACING: for roofs of less than 25° slope
Roofs containing gable ends not otherwise braced by hips or valleys shall be braced with not less than two braces set in opposing directions between ridge and a load bearing wall at an angle of approximately 45 degrees. Such bracing shall be 75 x 50mm for lengths up to 2.1 metres or equivalent engineered diagonal metal bracing or structural sheet bracing. Alternatively diagonal bracing at approx, 45 degrees from ridge to wall plate in the plane of each roof slope may be used of 75 x 25mm section (not let into rafters). For roofs slopes greater than 25° and up to 35° see AS1684.2
MANHOLE:
Trim as required between ceiling joists for manhole 600 x 400mm minimum size. Line the opening and provide a suitable cover.
EAVES:
Project rafters to give a soffit at eaves of directed width and fix 200 x 25mm timber fascia or colourbond steel as directed. Where eaves are boxed in, soffit bearers (sprockets) of 50 x 38mm shall be provided, spaced to suit eaves lining and attached directly to outer ends of rafters. In brick veneer buildings the inner ends of soffit bearers shall be fixed to the frame so as to be 20mm or more clear above top of brickwork at time of construction.
In solid masonry buildings the inner ends of soffit bearers shall be located by means of 50 x 25mm hangers from rafters or wall plates.
ROOF TRUSSES:
Timber trusses purpose manufactured for this project and engineer designed according to AS1720.1 are to be spaced at centres as directed, erected and fixed in accordance with the manufacturers instructions as approved. Support only on ends or designed bearing points. Where spacing of trusses exceeds 600mm centres provide intermediate ceiling joists in 100mm x 38mm hardwood (in F7) or 100mm x 50mm Oregon (in F8) supported from hangers at maximum of 2100 centres. Hanging beams shall be supported not more than 600mm from bottom chord panel points unless hangers are provided to nearest top chord panel points.
DEFINITIONS:
Spacing - Where this term is used the measurement shall be the centre-to-centre distance between members.
Span - Where this term is used the measurement shall be the face-to-face distance between members.
Reference is made to effective roof spans in the tables - the span is an indicator of the mass of roof being carried by the outer wall members. Below are examples of typical spans.



TRUSSED ROOF



COUPLED ROOF WITH UNDERPURLINS



ROOF WITH LOADBEARING RIDGEBEAMS AND/OR WALLS

MASSES OF TYPICAL ROOF CONSTRUCTIONS

Mass of of roof (Kg/m2)	Material
10	Steel sheet roofing 0.50mm thick and battens
20	Metal sheet tiles or medium gauge steel sheet roofing, battens, 12m softwood ceiling lining, sarking and lightweight insulation.
30	Steel sheet roofing 0.75mm thick, 13mm plaster ceiling, roof and ceiling battens, sarking and lightweight insulation
40	Steel sheet roofing 0.75mm thick, battens, graded purlins and high density fibreboard ceiling lining
60	Terracotta or concrete tiles and battens
75	Terracotta or concrete tiles, roofing and ceiling battens, 10mm plasterboard, sarking and insulation
90	Terracotta or concrete tiles, purlins, roofing and ceiling battens, 19mm hardwood ceiling lining, sarking and insulation

TABLES OF TIMBER SIZES

SINGLE STOREY TILED ROOF — SINGLE STOREY SHEET ROOF

Framing Member Stud Height 2400	Span	Unseasoned	Seasoned			Unseasoned	Seasoned		
		F8	F5	MPG10	MPG12	F8	F5	MPG10	MPG12
BEARERS-									
Strutted roof – max. rafter span 3000									
@ 1800 spacing continuous over	1500	100 x 75	2/120 x 35	2/120 x 35	2/90 x 35	100 x 75	2/90 x 35	2/90 x 35	2/90 x 35
two or more spans-load bearing.	1800	125 x 75	2/140 x 35	2/120 x 35	2/90 x 35	125 x 75	2/120 x 35	2/120 x 35	2/90 x 35
Trussed Roof 9.0 Span. External									
Wall 1800 spacing continuous over	1500	175 x 75	2/170 x 35	2/140 x 35	2/140 x 35	125 x 75	2/120 x 35	2/120 x 35	2/90 x 35
two or more spans-load bearing.	1800	150 x 75	2/190 x 35	2/190 x 35	2/140 x 35	200 x 75	2/190 x 35	2/190 x 35	2/170 x 35
JOISTS-									
450 spacing-continuous over two or more spans	1800	125 x 38	120 x 45	120 x 35	120 x 35	125 x 38	120 x 45	120 x 35	120 x 35
WALL PLATES-									
Trenched for studs max. 3 @ up to 600 centres									
Raftered roof 3000 Span									
Top Plates		2/50 x 75	2/45 x 70	2/45 x 70	45 x 70	50 x 75	2/45 x 70	2/35 x 70	45 x 70
Bottom Plates		50 x 75	2/45 x 70	2/45 x 70	45 x 70	50 x 75	2/45 x 70	2/35 x 70	45 x 70
Trussed Roof 9000 Span									
Top Plates		3/50 x 75	---------	3/45 x 70	2/45 x 70	2/50 x 75	3/45 x 70	2/45 x 70	2/45 x 70
Bottom Plates		3/50 x 75	---------	3/45 x 70	2/45 x 70	2/50 x 75	3/45 x 70	2/45 x 70	2/45 x 70
JAMB STUDS-(70/75mm frame)	900	2/75 x 38	2/70 x 45	2/70 x 35	70 x 45	75 x 38	2/70 x 35	70 x 45	70 x 35
Truss or Rafter Span (9000 max.)	1800	2/75 x 50	3/70 x 45	2/70 x 45	2/70 x 35	2/75 x 38	2/70 x 45	2/70 x 45	70 x 45
Single storey or upper storey ext.	2400	3/75 x 38	4/70 x 45	3/70 x 35	2/70 x 45	2/75 x 38	3/70 x 45	2/70 x 45	2/70 x 35
or internal load bearing walls	3000	3/75 x 50	4/70 x 45	3/70 x 45	2/70 x 45	2/75 x 50	3/70 x 45	2/70 x 45	270 x 35
STUDS under concentrated loading @ 600 centres notched up to 20 for bracing Roof area 15m^2		3/75 x 50	---------	3/70 x 45	2/70 x 45	2/75 x 50	2/70 x 45	2/70 x 35	70 x 45
LINTELS*-	900	75 x 75	90 x 35	90 x 35	90 x 35	75 x 50	90 x 35	90 x 35	90 x 35
Raftered roof 3000 Span	1200	100 x 50	2/90 x 35	90 x 45	90 x 35	100 x 38	120 x 35	90 x 45	90 x 35
	1500	125 x 75	120 x 45	2/90 x 35	2/90 x 35	100 x 75	120 x 45	90 x 45	90 x 35
	1800	150 x 75	2/120 x 45	2/120 x 35	120 x 45	125 x 50	2/90 x 45	2/90 x 35	90 x 45
	2100	175 x 75	190 x 35	170 x 35	2/120 x 45	125 x 75	2/120 x 35	120 x 45	2/90 x 35
	2400	200 x 75	2/170 x 45	2/140 x 45	2/140 x 35	150 x 75	2/120 x 45	2/120 x 35	120 x 45
	3000	2/50 x 75	2/240 x 35	2/190 x 45	2/170 x 45	200 x 75	2/170 x 35	170 x 45	2/140 x 35
	3600	300 x 75	2/290 x 35	2/240 x 45	2/24 x 35	250 x 75	2/240 x 35	2/190 x 45	2/170 x 45
	900	100 x 75	2/90 x 35	90 x 45	90 x 35	100 x 50	2/90 x 35	90 x 45	90 x 35
Trussed Roof 9000 Span	1200	125 x 75	2/120 x 35	120 x 45	2/90 x 45	125 x 50	140 x 45	2/90 x 45	2/90 x 35
	1500	175 x 75	2/140 x 45	2/120 x 45	2/120 x 45	150 x 50	2/120 x 35	2/140 x 35	2/90 x 45
	1800	200 x 75	2/170 x 45	2/170 x 35	2/140 x 35	150 x 75	2/140 x 35	2/120 x 35	2/120 x 35
	2100	225 x 75	2/240 x 35	2/170 x 45	2/170 x 35	175 x 75	2/170 x 35	170 x 45	2/120 x 45
	2400	275 x 75	2/240 x 35	2/240 x 35	2/190 x 45	200 x 75	2/170 x 45	2/170 x 35	2/140 x 45
	3000	---------	2/290 x 45	2/290 x 35	2/240 x 45	250 x 75	2/240 x 35	2/190 x 45	2/190 x 35
	3600	---------	---------	---------	2/290 x 45	---------	2/290 x 45	2/290 x 35	2/240 x 45

SINGLE STOREY TILED ROOF

Framing Member Stud Height 2400	Span	Unseasoned				Seasoned		
		F5	F7	F8	F11	F5	MPG10	MPG 12
CEILING JOISTS at 600 centres over two or more max. 2400 Spans		125 x 38	125 x 38	100 x 50	100 x 50	120 x 35	120 x 35	90 x 45
HANGING BEAMS @ max. 2400 centres	2400	100 x 50	150 x 38	150 x 38	125 x 50	120 x 45	120 x 45	120 x 35
	3000	200 x 38	175 x 50	175 x 50	175 x 38	170 x 35	140 x 45	140 x 35
	3600	225 x 50	225 x 38	200 x 50	200 x 50	190 x 45	170 x 45	170 x 35
	4200	275 x 50	250 x 50	250 x 50	225 x 50	240 x 35	190 x 45	190 x 35
	4800	300 x 50	300 x 50	275 x 50	275 x 50	290 x 35	240 x 35	240 x 35
STRUTTING BEAMS @ 2400 centres,	2400	250 x 75	250 x 75	225 x 75	225 x 75	2/240 x 35	2/190 x 45	2/170 x 45
max. rafter span 3000	3000	300 x 75	300 x 75	275 x 75	250 x 75	2/240 x 45	2/240 x 35	2/190 x 45
	3600	---------	---------	300 x 75	300 x 75	2/290 x 35	2/240 x 45	2/240 x 35
RAFTERS @ 600 centres - roof mass 60 kg/m^2								
continuous over two or more spans.	3000	150 x 38	125 x 50	125 x 38	125 x 38	120 x 35	120 x 35	90 x 45
Overhang		750	750	750	750	500	550	750
UNDERPURLINS CONTINUOUS SPAN Max.rafter span 3000. Max. strut spacing 2400		---------	150 x 75	150 x 75	150 x 75	2/140 x 45	2/120 x 45	2/120 x 35
COLLAR TIES to each alternate pair of rafters halved and shouldered	up to 4200	75 x 50	75 x 50	75 x 50	75 x 50	70 x 45	70 x 35	70 x 35
	over 4200	100 x 50	100 x 50	100 x 50	100 x 50	90 x 45	90 x 35	90 x 35

NOTES:

1. Cantilevers shall not exceed 25% of the allowable span, except that allowable offsets and cantilevers of load bearing walls at right angles to bearers shall be as per Table 4.1 of AS1684.4 –1999
2. Multiple members shall be vertically nail laminated according to Clause 2.3 of AS1684.4 – 1999
3. Edge distances for some sheet bracing materials may require a minimum plate depth and or minimum stud breadth of 45mm for joining sheets
4. For openings greater than 900mm a secondary jamb stud may be required to support a lintel as per tables.

SINGLE STOREY SHEET ROOF

Framing Member Stud Height 2400	Span	Unseasoned				Seasoned		
		F5	F7	F8	F11	F5	MPG10	MPG12
STRUTTING BEAMS@ 2400 centres	2400	200 x 75	200 x 75	175 x 75	175 x 75	2/170 X 35	2/140 X 45	2/140 X 35
max. rafter span 3000	3000	225 x 75	225 x 75	225 x 75	200 x 75	2/190 X 35	2/170 X 45	2/170 X 35
under purlin span 2400	3600	275 x 75	250 x 75	250 x 75	225 x 75	2/240 X 35	2/190 X 45	2/170 X 45
RAFTERS @ 900 centres roof mass 20kg/m^2								
continuus. over two or more spans	3000	125 x 38	125 x 38	100 x 50	100 x 38	120 x 35	90 x 45	90 x 35
Overhang		500	650	700	750	450	450	500
UNDERPURLINS CONTINUOUS SPAN		125 x 75	125 x 75	125 x 75	100 x 75	2/90 x 35	2/90 x 45	2/90 x 35
Max.rafter span 3000. Max.strut spacing 2400								

Where top plates are required to bear a load arising from the placement of a roof strut, such strut shall be located only at a point immediately above a supporting stud unless the top plate is adequately stiffened by means of an intermediate blocking piece. Where bottom plates are required to carry a stud to the side an opening or a stud bearing a major load, the plates shall be supported by a joist or intermediate blocking piece directly beneath that stud. Double studs to be well spiked to ensure their action as one structural member.
The above tables refer to size of studs notched up to 20 for bracing. For sizes of studs not notched refer to AS1684.
For doorway openings up to 900 wide where jamb linings or other comparable stiffening are used, common studs are permissible.
Lintels and strutting beams over 175 deep to be seasoned or a low shrinkage timber species used.

HIPS - Depth of Common Rafter + 50 x 13 less than Rafter thickness
RIDGE BOARDS - Depth of Common Rafter + 50 x 25 thick
VALLEY RAFTERS - Depth of Common Rafter + 50 x 38 thick

CEILING JOISTS, HANGING BEAMS, VALLEY BOARDS, COLLAR TIE As for tiled roofs
For floor joists at 450 centres over single 1800 spans, 100 x 50 unseasoned F8 or F11 can be used. For bearers and joists of other stress grades and spans refer to AS 1684.4 1999 or AS1684.2 1999.
Direct load in relation to top plates in where rafters or trusses are placed within 1.5 times the thickness of the plate from the stud; random load is where the placement of rafters or trusses exceeds that limit. Where points of fixing of studs on bottom wall plates occurs directly above points of support provided by joists, blocking pieces or by concrete floors, bottom wall plate may be as shown above for direct load.

GABLES OR VERGES:
Where open gables or verges are indicated on plans such are to be formed as extensions to main roof with rafters supported on cantilever extensions of ridge boards, underpurlins and wall plates. Extension to wall plates shall be same size as underpurlin. Alternatively the overhang shall be framed with jack rafters set at right angles to and framed into the common rafters.
Where boxed gables are indicated, such gables shall be framed as above but with 75 x 50mm gable studs halved to side of verge rafters at centres to suit lining material and having 75 x 38mm soffit bearers fixed between the lower ends of gable studs and the structural walls as for boxed eaves. Horizontal location for gable studs and fixing for lower edges of gable linings shall be provided by a 75 x 38mm plate-on-edge let into the face of gable stud level with the soffit bearers. Boxed gables shall be securely strutted from the structural wall plate to support the weight of the gable framing and the roof covering.

UNCOUPLED ROOF WITH LOADBEARING RIDGEBEAMS AND/OR WALLS
Rafters supporting roof and ceiling loads – non coupled cathedral roof single span

Rafter Span	Rafter Spacing	Unseasoned				Seasoned			
		F5	F7	F8	F11	F5	MPG10	MPG12	F17
Tiled Roof Ceiled									
3000	600	200 x 38	200 x 50	175 x 50	175 x 50	175 x 45	140 x 45	140 x 45	140 x 35
Overhang		750	750	750	750	750	750	750	750
3600	600	250 x 50	225 x 50	225 x 50	200 x 50	240 x 35	170 x 45	170 x 45	170 x 35
Overhang		750	750	750	750	750	750	750	750
4200	600	275 x 50	275 x 50	250 x 50	250 x 50	240 x 45	240 x 35	190 x 45	190 x 45
Overhang		750	750	750	750	750	750	750	750
4800	600	275 x 75	275 x 75	300 x 50	275 x 50	290 x 35	240 x 45	240 x 35	240 x 35
Overhang		750	750	750	750	750	750	750	750
5400	600	-------	300 x 75	300 x 75	275 x 75	--------	290 x 35	290 x 35	240 x 45
Overhang			750	750	750		750	750	750
Sheet Roof Ceiled									
3000	900	175 x 50	175 x 50	175 x 50	150 x 50	140 x 45	140 x 35	120 x 45	120 x 45
Overhang		750	750	750	750	750	750	750	750
3600	900	225 x 50	200 x 50	200 x 50	200 x 50	170 x 45	170 x 35	140 x 45	140 x 45
Overhang		750	750	750	750	750	750	750	750
4200	900	250 x 50	250 x 50	225 x 50	225 x 50	240 x 35	190 x 45	170 x 45	170 x 45
Overhang		750	750	750	750	750	750	750	750
4800	900	300 x 50	275 x 50	275 x 50	250 x 50	240 x 45	240 x 35	190 x 45	190 x 45
Overhang		750	750	750	750	750	750	750	750
5400	900	300 x 75	275 x 75	300 x 50	275 x 50	290 x 35	240 x 45	240 x 35	240 x 35
Overhang		750	750	750	750	750	750	750	750

NOTE:
1. Allowable overhangs are based on a maximum birds mouth depth of D/3. Where rafters are not birds mouth, the allowable overhang may be increased to 30% of the single span for that member, provided that the overhang does not exceed 50% of the actual backspan.
2. Overhang limits are only applicable where rafter ends are supported by a structural fascia.
3. Adequate ventilation provision must be made.

TABLE OF TIMBERSIZES LOWER STOREY OF TWO STOREY CONSTRUCTION - TILED ROOF

Framing Member Stud Height 2400	Span	Unseasoned				Seasoned		
		F5	F7	F8	F11	F5	MPG10	MPG12
BEARERS								
Strutted Roof – max. rafter span 3000, bearers @ 1800 spacing continuous over two or more spans - load bearing.	1200	125 X 75	125 X 75	100 X 75	100 x 75	2/120 X 35	2/90 X 45	2/90 X 35
	1800	200 X 75	175 X 75	150 X 75	150 X 75	2/170 X 45	2/140 X 45	2/120 X 45
Trussed Roof - 9000 span. Bearers @ 1800 spacing continuous over two or more spans - load bearing	1200	150 x 75	150 x 75	125 x 75	125 x 75	2/120 x 45	2/120 x 45	2/90 x 45
	1800	225 x 75	200 x 75	175 x 75	175 x 75	2/190 x 45	2/170 x 45	2/140 x 45
JOISTS TO GROUND FLOOR			**Refer to**	**Single**	**Storey**	**Tables**		
WALL PLATES –Not trenched, external load bearing walls - Joists at 600 centres								
RAFTER OR TRUSS SPAN 3000 (70/75mm frame)	B/plates	2/50 x 75	2/50 x 75	2/50 x 75	2/50 x 75	3/45 x 70	2/45 x 70	2/35 x 70
	T/plates	3/50 x 75	2/50 x 75	2/50 x 75	2/50 x 75	3/45 x 70	2/45 x 70	2/35 x 70
9000	B/plates	3/50 x 75	3/50 x 75	3/50 x 75	2/50 x 75	--------	3/45 x 70	3/45 x 70
	T/plates	--------	3/50 x 75	3/50 x 75	2/50 x 75	--------	3/45 x 70	2/45 x 70
JAMB STUDS – (70/75mm frame)	900	3/75 x 50	3/75 x 38	2/75 x 50	2/75 x 38	3/70 x 45	2/70 x 35	2/70 x 35
Truss or Rafter Span (9000 max)	1800	4/75 x 50	4/75 x 38	3/75 x 50	3/75 x 38	4/70 x 45	2/70 x 45	2/70 x 45
Opening span	2400	--------	4/75 x 50	4/75 x 50	3/75 x 50	--------	3/70 x 45	3/70 x 35
	3000	---------	--------	4/75 x 50	4/75 x 50	--------	4/70 x 35	3/70 x 45
COMMON STUDS - @ 600 centres notched up to 20mm for bracing								
RAFTER OR TRUSS SPAN 3000		75 x 50	75 x 50	75 x 38	75 x 38	2/70 x 35	70 x 35	70 x 35
9000		2/75 x 38	2/75 x 38	2/75 x 38	75 x 50	2/70 x 35	70 x 45	70 x 35
LINTELS								
Raftered roof 3000 span	900	100 x 75	100 x 75	100 x 50	100 x 50	90 x 45	90 x 35	90 x 35
	1200	150 x 50	125 x 50	125 x 75	125 x 50	2/120 x 35	2/90 x 45	2/90 x 35
	1500	175 x 75	175 x 75	150 x 75	150 x 75	2/140 x 35	2/120 x 35	2/120 x 35
	1800	200 x 75	200 x 75	175 x 75	175 x 75	2/170 x 35	2/140 x 45	2/140 x 35
	2400	275 x 75	250 x 75	250 x 75	225 x 75	2/240 x 35	2/190 x 45	2/170 x 45
	3000	--------	--------	300 x 75	300 x 75	2/290 x 35	2/240 x 45	2/240 x 35
Trussed Roof 9000 span	900	125 x 50	125 x 50	100 x 75	100 x 75	2/90 x 35	90 x 45	90 x 35
	1200	150 x 75	150 x 75	150 x 75	150 x 50	2/120 x 45	2/120 x 35	120 x 45
	1500	200 x 75	200 x 75	175 x 75	175 x 75	2/170 x 35	2/140 x 35	2/120 x 45
	1800	225 x 75	225 x 75	225 x 75	200 x 75	2/190 x 45	2/170 x 35	2/170 x 35
	2400	300 x 75	300 x 75	275 x 75	275 x 75	2/240 x 45	2/240 x 45	2/240 x 35
	3000	--------	--------	--------	--------	--------	2/290 x 45	2/290 x 45

Notes:
Member sizes shown in the above table are for structures with an upper floor joist maximum span of 4800mm. (for greater spans see AS1684.2)
Direct load in relation to top plates is where first floor joists are placed within 1.5 times the thickness of the plate from the stud, random load is where placement of the joists exceeds that limit. Direct load in relation to bottom plates is where stud bearing occurs directly above points of support provided by joists, blocking pieces, or by concrete floors. Refer to single storey table for upper floor wall framing and roof. For doorway openings up to 900 wide where jamb linings or other comparable stiffenings are used common studs are permissible.

VERANDAH MEMBERS:
Base of post shall be checked over joists and bolted or coach screwed to side of joist, or bolted or coach screwed to a metal stirrup with dowel set in concrete. Top of post shall be securely fixed to plates.
Plates: Sizes and spans as for lintels, but minimum thickness to be 50mm.
Note: For a stained finish to the above members a timber of durability Class 2 or better (refer AS1684) or one which has been adequately treated with preservatives shall be used.

Posts: Maximum height 3000mm maximum span 3000mm for plates	F8 - F11	Seasoned F5
Sheet or Tiled Roofing	100 x 100	90 x 90

NOTE: Sizes shown in tables in this specification are intended only as a guide to the size and stress grade for a particular member of a building frame. All timber framing should be designed and constructed in accordance with AS1684.2 and/or AS1684.4

Timber sizes shown in tables in this specification are based on AS1684.4 Simplified Non-cyclonic areas, with restrictions as follows:-
- Maximum wind classification N2 (33m/s)
- Maximum roof pitch 30°
- Maximum building width 12.0m

PERMANENT BRACING OF WALLS AS PER AS1684.2 Section 8 - BCA parts 3.4.3.8, 3.4.3.11, 3.4.3.19, 3.4.3.20 and 3.4.3.21
This section 'Permanent Bracing of walls as per AS1684 shows typical bracing applicable to timber frame construction as explanatory information only.

TYPE 'A' UNITS (Design racking resistance of 2kN). The following bracing units are deemed satisfactory type 'A' braces.
1. A pair of diagonal timber or metal section braces in opposite directions from each end of the wall as per fig (A) OR galvanised metal tensioned strap bracing as per fig (B).
2. Single diagonal timber or metal section brace as per figure (C).
3. A 900mm minimum wide panel of structural plywood as per figure (D).

Type 'A' Bracing - Pair of diagonals from each end of wall		
Timber	Metal Section	Tensioned Straps
50mm x 19mm for studs up to 2.7m long 75mm x 19mm for studs over 2.7m long Fixing: galvanised flat head nail 2.8mm dia. x 50mm long to each plate and stud.	18mm x 16mm x 1.2mm min. galvanised angle brace fixed with one 2.8mm dia. x 30 long galvanised flat head nail to each plate and stud edge.	Flat galvanised straps 0.8mm thick x 20 wide. Fixings: one galvanised flat head nail 2.8mm dia. x 30mm long to each plate and stud edge. Tension straps.

Type 'A' Bracing - Single diagonal at end of wall.	
Timber	Metal Section
75mm x 19mm min. fixed with two 2.8mm dia x 50mm long flat head galvanised nails to each stud and plate.	Galvanised angle brace fixed with two 2.8mm dia x 30 long galvanised flat head nails to each plate and stud

Type 'A' Bracing - panel of structural plywood or hardboard					
Plywood	Thickness mm		Hardboard		
Stress Grade	Studs at 450mm	Studs at 600mm	Type	Thickness	Max. stud spacing
F8	7.0	9	Standard RD	5.5	600mm
F11	4.5	7	Standard GP	6.4	600mm
F14	4.0	6			
Fixing: 2.8mm dia x 30 long galvanised flat head nails at 150mm centres along all edges and 300mm centres on intermediate studs locate nails minimum 7mm in from edges.			Fixing: as per plywood except locate nails 10mm in from vertical edges and 20mm in from horizontal edges.		

Type 'B' Units (design racking resistance of 4kN. The following bracing units are deemed to be satisfactory type 'B' braces

1. A pair of diagonal galvanised metal tension straps of minimum nominal dimention 30mm x 0.8mm in opposing directions on one side of timber frame. Ends of straps shall be bent over top and bottom faces of plates and fixed with four 3.15mm dia. x 30mm long galvanised flat head nails. Braces shall be fixed to stud edges with two similar nails to each crossing. End studs of braces section shall be strapped to top and bottom plates with 30mm x 0.8mm galvanised strap looped over plate and fixed to studs with four galvanised flat head nails 3.15mm dia x 30mm long each end of loop.
2. A 900mm minimum wide panel of structural plywood as shown in figure (D). Fixed as follows:

Plywood stress grade F8	Stud spacing 450mm to be 7mm thick ply.	Stud spacing 600mm to be 9mm thick ply.
Plywood stress grade F11	Stud spacing 450mm to be 6mm thick ply.	Stud spacing 600mm to be 7mm thick ply.
Plywood stress grade F14	Stud spacing 450mm to be 4mm thick ply.	Stud spacing 600mm to be 6mm thick ply.

Fixing: 2.8mm dia x 30mm long galvanised flat head nails at 50mm centres along top and bottom plates, 150mm centres along vertical edges and 300mm centres along intermediate studs.

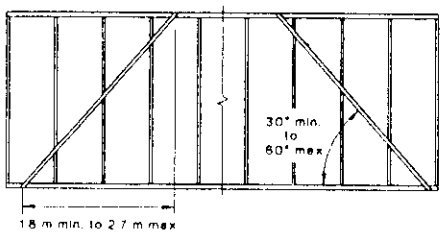


fig (A)

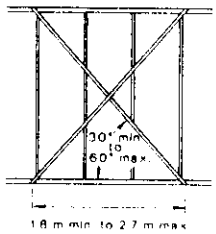
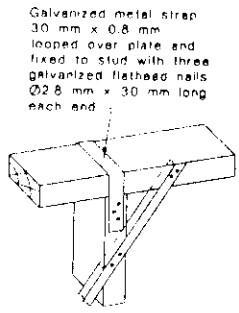


fig (B).



DETAIL 2

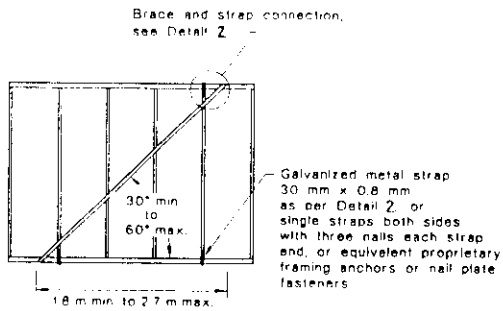


figure (C).

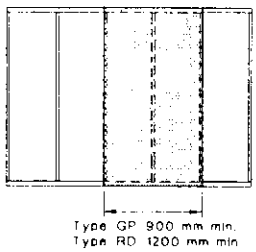
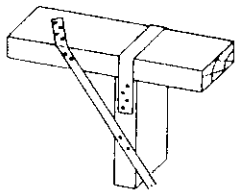


figure (D).


DETAIL 1

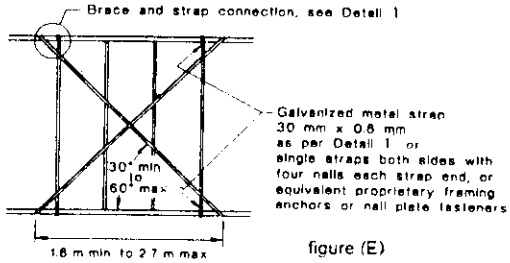


figure (E)

Diagrams as shown and explanation of the various types of bracings are not intended to specify bracing requirements for any timber frame construction. All bracing requirements for a particular design in timber framing must be determined in accordance with Section 8 of AS1684.2 or AS1684.4 as applicable.

TIEDOWN REQUIREMENTS: BCA tables 3.4.3.8, 3.4.3.9 and 3.4.3.18

Tie down requirements for timber frame construction can be determined from AS1684.4 Section 9 for maximum design gust wind speeds of 33m/sec. For wind speeds in excess of 33m/sec, design as per AS1684.2 is required.

Tie down fixings should be determined for the following connections:

a) bearers to piers
b) floor joists to bearers
c) Bottom plates to floor joists or concrete slabs
d) studs to bottom and top plates
e) rafters to top plates
f) rafters to ceiling joists
g) battens and/or purlins to rafters
h) collar ties to rafters
i) verandah plates & eaves beams to posts.

Note:

Special fastening requirements are required for type 'A' and 'B' wall bracing for connections (c) and (d) above.

CYCLONIC AND OTHER HIGH WIND AREAS

Where buildings are to be constructed in regions B, C, and D as per AS 1179.2 compliance with the Australian Wind loading Code AS1179.2-1989 or the Australian Standard Wind Loads for housing AS4055 is required.

In cyclonic areas buildings must be Engineer designed and/or structurally certified for wind speeds of 205.2 km/hr (55.7 m/s) in Region "C" and 243.4 km/hr (Vy 85 m/s) in Region D.

STEEL FRAMING AND OR TRUSSES - BCA part 3.4.2

MATERIALS:

All framing sections shall be manufactured from galvanised steel conforming to AS1397. Galvanised materials up to 3.2mm thick shall have minimum coating mass of 200 g/m2.Design, fabrication and fixing shall be as recommendations of the component manufacturers design manual.

FABRICATION AND ERECTION:

All structural components may be fabricated into frames and/or trusses in the shop or on site and shall be cut accurately to length to fit firmly against abutting members and held so until fastened. Studs shall be seated squarely in bottom plates with webs at 90deg. to the face of the wall and accurately located, plumbed and securely fixed to top and bottom plates. Multiple studs shall be used as specified at concentrated load points. Plates shall be securely spliced to maintain continuity. Splices in studs are not permitted. Structurally adequate heads shall be fitted over openings in walls. All frames shall be adequately braced for transport and resist wind loads in service. Preferred fastening is by MIG welding. Other fastening such as carbon arc welding, self tapping bolts and screws or blind rivets of adequate strength may be used. All welds shall be cleaned and painted with zinc rich paint. The bottom plate shall be securely fastened to sub floor at centres as recommended and all site connections shall be as specified in design manual. Holes for electrical wiring, other cables and plumbing services shall be max. 33 dia. flanged holes in studs and noggins where required. Service pipes shall be effectively separated from framing by lagging and be securely fixed in cavities. Permanent electrical earthing of a steel frame building shall be carried out in accordance with the requirements of the local electrical authority. Where power tools are used on site, temporary earthing to the frame shall be made during construction. On completion of framing all debris shall be removed from cavities and bottom plates. Domestic metal framing shall be designed to comply with the load combinations as per AS3623.

ROOFER - BCA part 3.5.1

TILE ROOFING: BCA part 3.5.1.2

Provide all roofs with first quality roofing tiles. Tiles may not be used on roof having a slope less than 1:4.5 where pitch of rafters is less than 1:2.75 terra cotta Marseilles pattern, 1:3.7 Swiss pattern, 1:3.3 concrete tiles are used the roof shall be sarked with either 2 ply bituminous felt or double faced aluminium foil covered reinforced fabric as per AS1736. Between 1:3.7 and 1:4.5 slope, perimeter of roof shall be provided with an anti ponding board or device to ensure that all water will be discharged into eaves gutter, a clear space must be provided between edge of the device and the lowest side of the first batten so as to allow a free flow of water into the gutter. . Where one section of the roof discharges into a lower section, the discharge is to be widely distributed, and the roof is to be fully sarked. Elsewhere, where a spreader is used the roof shall be sarked from the point of discharge to Eaves with a minimum width of 1800mm approved sarking. Cover all ridges and hips with capping, starters and apex caps necessary and bed all capping and verge tiles on lime mortar and point with coloured cement mortar.

TERRA COTTA TILES:

To be glazed and manufactured in accordance with AS 2049. To be fixed to timber battens with copper wire ties every alternate tile, all fixed in accordance with AS2050.

CONCRETE TILES:

To conform to AS1757 and AS1758 and to be produced by manufacturers who provide a comprehensive guarantee and fix in accordance with AS1787. Tiles are to have an end lap of not less than 75mm. Where wiring holes are provided, every alternate tile in each course is to be tied to battens with approved wire. Where holes are provided for nailing every tile in each third course is to be fixed with galvanised flat head nails at least 19mm into tile batten. Fixing to be as per AS2050.

CORRUGATED FIBRE CEMENT ROOFING:

To conform to AS1611 and fixed in accordance with AS1562 Pt.2. Minimum pitch of roof is to be 1:8 for large corrugations and 1:11 where the rafter length can be covered with a single sheet. Where pitch of roof is less than 1:6 in the case of large corrugations and 1:4.5 in the case of small corrugation end laps shall be at least 225mm and sealed. Sheets to be fixed with galvanised round head screws and felt washers set in mastic to each run of battens with side and end laps or other approved method in accordance with manufacturers instructions. All necessary accessories are to be provided and the roof is to be adequately birdproofed.

PROFILED STEEL ROOF: BCA part 3.5.1.3

To be material as nominated on drawings. All necessary accessories to be provided and fixed according to manufactures recommendations. Roof is to be bird proofed. Sheet fixings and spacings are to be strictly as per manufacturers recommendations for the design wind speed for the area. Design and installation shall be in accordance with AS/NZS 1562.

SARKING:

Where sarking is specified or required by any authority the selection of and fixing shall be in accordance with the code of practice as specified in AS1736 for pliable roof sarking and/or AS1903-04 for reflective foil laminates..

STEEL WORKER - BCA part 3.4.4

GENERALLY:

All steel work is to be fabricated to details as shown on engineers drawings all work to be in accordance with AS4100 Steel Structures.

PURLINS AND GIRTS:

To roof and walls of building provide purlins and girts according to engineers details.

ROOFER AND SHEETER:

Cover roof and walls of building in full length sheets complete with all necessary flashings cappings etc. Secure as recommended by manufacturer provide panels of selected translucent sheeting as indicated or directed.

FLOORING - BCA part 3.4.3.4

T & G STRIP FLOORING: BCA table 3.4.3.1 - Flooring shall be seasoned and stored in a way to preserve its delivery condition. Flooring boards shall be laid in straight and parallel lines with tongues fitted into groves and cramped together with pressures suited to moisture content and seasonal conditions. End joints shall be made on a joist, except as noted under 'End Matched Flooring' and joints in adjoining boards shall be staggered. Flooring shall be kept 12mm clear of walls or wall plates parallel with the direction of laying. Boards of normal width of 75mm and less shall be fixed with one nail at each joist and boards over 75mm shall be fixed with two nails at each joist. Nails in faces of boards are to be well punched to allow for subsequent sanding and stopping. Boards profiled for secret nailing are to be skew nailed through tongues at each joist with nail punched to permit the full entry of the tongue into the goove. Flooring is not to be cut in and fixed before roofing is complete, external walls sheeted or lined and all external openings covered.

END MATCHED FLOORING:

Where end matched flooring (with tongued and grooved ends are used, joints need not be made over joists but may fall at an intermediate point between joists providing that end joints are well distributed throughout the flooring.

SHEET FLOORING: BCA tables 3.4.3.2 and 3.4.3.3

The minimum height of sheet flooring above ground level and under-floor ventilation shall be in accordance with manufacturers instructions or as required by Council or Lending Authority.

Where sheet flooring is used in platform construction and a decorative finish is required it shall be sealed with a water repellent at time of fixing.

a) Structural Plywood: shall be manufactured in accordance with AS2269 and sheets stamped on the face side with manufacturers name or trade mark. Sheets shall be fixed in accordance with manufacturers instructions as approved.

b) Particle Board: Approved board bonded with phenolic resin to achieve a type 'A' bond as defined in AS1860 for plywood may be used in platform construction or as fitted flooring. Boards shall be fixed in accordance with manufacturers instructions as approved. The perimeter of flooring should be fully supported by joists or noggins. Other approved particle board may be used providing it is a minimum of 2100mm above the ground, well ventilated and the building completely weatherproof prior to fixing of the floor.

c) Compressed Fibre Cement: Sheet flooring not less than 18mm thick with density of not less than 1.8g/cm3 may be used in lieu of suspended concrete floors. Sheets shall be fixed in accordance with manufacturers instructions adequately flashed and suitably finished.

ELECTRICIAN

Provide all labour and materials necessary for the proper installation of electrical services in accordance with the appropriate AS Rules and requirements of the Local Supply Authority. Arrange with the supply Authority for connection from supply main to meter board. Provide for the proper installation and connect electricity stove/s and hot water unit/s. Provide light and power points as indicated on drawings or as directed. Provide box to enclose meters in accordance with the requirements of the Authority concerned. Arrange for inbuilt wiring for telephone, television, computer and security installation as required.

SMOKE DETECTORS/ALARMS : BCA part 3.7.2

Fire/smoke detectors selected by the owner and complying with the requirements of the Local Government Act and/or state or territory regulations shall be fitted in the locations required and approved by the regulatory authority and shall be installed in accordance with AS3786.

LIGHTNING PROTECTION:

Where lighting protection is specified or required under regulatory provisions it shall be installed in accordance with AS1768.

EXTERNAL WALL CLADDING - BCA part 3.5.3

TIMBER CLADDING: Weatherboards or profile sheeting as approved by the lending authority shall be fixed and flashed in accordance with manufacturers instructions and to the satisfaction of the lending authority. Weatherboards with laps as specified by the relevant AS shall be hardwood, pressure treated radiata pine or slash pine, cypress pine, baltic pine or western red cedar. The boards shall have a maximum moisture content of 15% be in long lengths with staggered end joints, securely nailed and fitted with angle stops. Western red cedar used externally shall be fixed with galvanised or cadmium plated fasteners. Boards exceeding 100mm in width shall be double fastened at all bearings. All boards shall be primed or sealed all around including rebates and ends before fixing. Where vertical boarding is used it shall be fixed to battens at not more than 600mm centres and sarking acceptable to the lending authority placed behind the battens to provide air space and fixed to the frame work with adequate provision for discharge of moisture. External boarding shall be in one length or have joints specially designed for external use.

FIBRE CEMENT: BCA part 3.5.3.3

a) Flat Sheeting: Fibre cement sheeting shall be not less than 4.5mm thick and close jointed to full height of walling or above sill level where weatherboard dadoes are specified. Horizontal joints shall be flashed with 0.42mm galvanised steel turned up 13mm against stud faces and down 12mm over sheet faces, lapped 25mm at joints. Internal angles of walls shall be flashed with 38mm x 38mm x 0.42mm minimum base thickness galvanised steel angles or bitumen coated metal flashing to full height of studs and lapped 50mm at joints. All vertical and horizontal joints and angles shall be covered with timber, fibre cement or other mouldings as approved by the lending authority. Trimmers of not less than 75mm x 38mm timber shall be provided between ends of floor bearers to support lower edge of sheeting.

b) Profiled sheeting and Weatherboard: As approved by the lending authority shall be fixed and flashed in accordance with the manufacturers instructions and to the satisfaction of the lending authority.

OTHER EXTERNAL SHEETINGS:

May be submitted to the lending authority for consideration where their use satisfies the appropriate Performance Requirement of the BCA and to comply with the requirements of AS/NZ1562

INTERNAL WALL LININGS

Line all internal walls not specified as otherwise with Gypsum plaster board fixed horizontally in full length sheets, or with staggered end joints to ceiling height. Sheets to have recessed edges and of thickness as recommended by the manufacturer for the stud, batten or support spacing. Fixing is to be with galvanised clouts, manufacturer approved screws and/or approved adhesive and be strictly in accordance with manufacturers instructions. Set all internal angles. Note: Where below 1200mm in laundry, bathroom and W.C. and at back of kitchen sink unit and below 1800mm in shower recess, only approved water repellent sheet shall be used. Note: Adhesives must not be used to fix sheets in tiled areas.

FIBREBOARD:

Sheets shall not be less than 4.5mm thick except where tiled. Sheets to be tiled shall not be less than 6mm thick. Where flush jointing is required fibreboard sheets shall be used, fixed and jointed in accordance with manufacturers instructions.

OTHER INTERNAL LININGS:

May be submitted to the lending authorities for consideration.

CEILING FIXER

CEILINGS

Provide Gypsum plaster board to all internal ceilings unless otherwise specified. Sheets to have recessed edges and to be 10mm thick when fixed to ceiling battens/joists spaced at not more than 450mm and 13mm thick for 600mm spacings. Fixing is to be with galvanised clouts and/or approved adhesive and is to be in accordance with manufacturers recommendations as approved. Provide selected cornices, neatly mitred, properly fixed and scrimmed and set at all joints in full wall lengths where practicable. Gypsum plaster board for ceilings and walls shall be as per AS2589. Sheets of different thickness may be used at other spacings where their manufacture and installation complies with the Deemed to Satisfy Provisions.

THERMAL INSULATION:

Where specified by the owner or is mandatory under local government or state regulations thermal insulation and/or vapour barrier shall be installed in roof, ceiling, walls and floors as required and in accordance with manufacturers recommendations deemed to comply with BCA or state regulation. Victoria clause F6.2 BCA.

PLASTERER

WALLS INTERNALLY:

To all brick walls not specified as feature brickwork or otherwise (with exception of garage) apply render to minimum thickness of 12mm. Render to consist of one part fresh cement to 3 parts clean sand with 10 per cent hydrated lime added. Use only whilst fresh. All brickwork to be well wetted before plastering is commenced.

GENERALLY: Point up all flashings externally with cement mortar and make good as required after other trades.

JOINER

GENERALLY:

Joinery timber is to be of durable species seasoned and free from those defects which might effect its appearance and/or durability. All to be D A R accurately cut and fitted, properly mitred and scribed as required and securely fixed. All surfaces to be left free of mill marks or other defects, filled where necessary and ready for painting or staining. Where wood plugging is required it shall be a suitable species properly seasoned.

JAMB LININGS AND DOORS:

1. DOOR FRAMES - BRICK BUILDINGS:

Shall be at least 100mm x 50mm solid rebated properly dowelled to thresholds. Mullions shall be 75mm thick and double rebated.

2. JAMB LININGS - INTERIOR DOORS ALL BUILDINGS, EXTERIOR DOORS TIMBER FRAMED AND BRICK VENEER: Linings shall be a minimum of 38mm thick solid rebated to all door openings. Where return plaster reveals occur linings shall be 75mm x 50mm rebated. Alternatively for internal doorways 25mm linings may be used with 12mm planted stops. In brick veneer and timber framed construction 12mm clearance shall be provided over jamb linings to external openings. Linings to openings not having doors or to have swing doors are to be 25mm thick timber securely fixed. Other proprietory linings may be approved by the owner.

DOORS:

Fit accurately to door frames hang external doors with three 88mm steel butts and internal doors unless otherwise specified with two 88mm steel butts. External doors shall not be less than 2040mm x 820mm x 40mm thick. Where sheeted with plywood, waterproof plywood only shall be used. All framed glazed doors (external or internal) shall be minimum of 40mm thick. Internal doors shall be minimum of 35mm thick and free of warping.

WINDOWS AND FRAMES:
In brick veneer construction 10mm clear space shall be left between underside of sill and brickwork. In two storey construction with hardwood timber framing the clearance shall be increased to 20mm.
INSTALLATION:
All windows shall be installed in accordance with the requirements of AS2047-48 for Aluminium windows and AS2146-47 for timber windows.
METAL DOORS AND WINDOW FRAMES:
To be of type and manufacture selected or noted, fitted with all necessary furniture and fixed and flashed in accordance with particular manufacturers recommendations.
STAIRS AND HANDRAILS:
Stairways shall be constructed to the layout as shown on plans with treads of equal dimensions except where shown or where winders are required. All risers shall be of equal height unless noted otherwise. Vertical clearances above stairs shall be 2000mm min. to soffit of floor or structure above when measured vertically above nose of tread. Relationship of riser to going shall be between 1:2 and 1:1.35 unless otherwise directed or as permitted in AS1657. Balustrades shall be provided to all landings, decks roofs other elevated platforms where the vertical distance from that level is more than 1 metre above the adjoining floor or finished ground level. Height of the balustrade must be a minimum of 1 metre above landings etc. and not less than 865mm above the nosings of any stair treads or floor of a ramp. Openings in balustrades (decorative of otherwise) must not allow a 125 mm dia sphere to pass through. Resistance to loading forces of a balustrade must be in accordance with A.S. 1170. Materials and finish of handrails, newel posts and balustrading shall be as directed or agreed by owner.

PLUMBER AND DRAINER

EAVES GUTTERS AND DOWNPIPES:
Eaves gutters and downpipes of material and finish as nominated on drawings shall be installed as per manufacturers specification to all eaves as required with falls to downpipes in positions shown and to comply with AS/NZS 2179.
VALLEYS:
To be 0.6mm thickness galvanised steel 450mm wide and fixed to valley boards with edge beaded well lapped and soldered or silicone jointed.
FLASHINGS:
Flash around chimney stacks, exhaust flues and wherever else required with approved flashings dressed well down onto roof slopes and taken vertically at least 75mm. Wedge step flashing into brickwork joints and point up with cement mortar. Eaves gutters, valleys and roof flashings shall be selected from materials compatible with each other and the roof covering to prevent bi-metallic corrosion. (See BHP publications TB8. TB15.
SANITARY PLUMBER:(all areas)
Provide wash tubs, pedestal pan, kitchen sink, wash basin, bath and floor grate to shower recess (as per plan).Provide waste traps and connect to drainage in accordance with the requirements of the sewerage authority concerned.
WATER SERVICE:
Provide copper pipe from authorities main to the boundary of the lot and install stop cock. Extend with a 19mm copper pipe to two garden points to bathroom, laundry, cistern, bath shower, water heater, wash basin, wash tubs, kitchen sink yard gulley. All piping in walls is to be copper. Properly secure all piping and provide chrome plated flanges at internal wall faces. Fix selected approved high pressure taps internal and high pressure brass taps externally. Provide for fixing of cistern, hot water unit as specified.
BATHROOM FLOOR:
Provide a 50mm grating to overflow outlet in bathroom floor. Connect waste to system or install dry waste if approved..
WET ROOM FLASHINGS: BCA 3.8.1
Waterproofing of wet areas shall be designed and installed in accordance with requirements and construction techniques as per AS3740 and appendix for wall/floor combinations. All to be inspected and approved by the Council and Society inspector prior to covering.
HOT WATER SERVICE:
Provide from H/water unit with copper tubing to points necessary. Terminate with taps selected. Provide inlet stop cock to hot water unit.
GAS SERVICE:
The whole of the work to be carried out as per requirements of the Local Supply Authority. The plumber is to be responsible for the gas service from fence alignment, including fixing of the meter and cover for same. Installations for bottled gas supply shall comply with the relevant standard.
RAIN WATER TANKS:
Install rain water tanks of selected material. Install on slab or built up support stand as nominated. Connect with copper or other approved tubing to outlets and taps as required with selected mains pressure pump system. All to be installed as per manufacturers recommendations.
NOTE: Drain pipes must not be taken through the footings of the building. All seepage and soakage water is to be effectively dealt with and diverted clear of the buildings as shown on site plan. Trenches for drains where running parallel to the building must not be within 600mm of the footings of the building.
SEWERED AREAS:
Provide a drainage system from pedestal pan and from wastes of all fittings and connect to the sewer main. where shown on site plan all to be in accordance with the rules and requirements of the Authority for Water Supply and Sewerage. Provide at least one gully outside the building. The Authority Certificate to be produced at Completion of the Work.
UNSEWERED AREAS:
Provide a drainage system from all fittings and from grease trap in accordance with the requirements of the Local Authority concerned. Excavate for drains to provide even falls throughout and a minimum cover of 300mm. Lay 100mm socketed vitrified clay pipes or P V C to take soilwater from wastes of washtubs, bath, shower, washbasin and grease trap. All pipes to be completely jointed with rubber rings or solvent cement as approved. All drain lines to be laid so that water is discharged into an absorption trench provided in position shown on plan. Provide an approved grease trap with lid in position shown to take the water from kitchen sink. Top of trap to be 75mm above finished ground or nearby concrete paving level. All drainage work from fittings to the drainage line outside the building to be in accordance with the rules and requirements of the Water Supply and Sewerage Authority for sewered areas. That Authority 'Special Inspection' Certificate of the work to be produced by the builder. All plumbing and drainage shall be in accordance with the Code of Practice for state or territory and regulating local government area.
SEPTIC SYSTEM:
In position shown on site plan provide and install pre cast septic tank together with a holding tank and length of absorption trench installed in accordance with the manufacturers instructions and the requirements of the Local Authority.
STORM WATER DRAINS:
Provide roof water drains from downpipes and from grates in paving where shown on site plan. Drains to be 100mm socketed vitrified clay pipes or PVC laid to an even and regular fall so as to have a minimum cover of 150mm. Drains to discharge into street gutter where possible. Where outlets are shown within the site they are to discharge at least 3000mm clear of the building into rubble packing 600mm diameter and 600mm deep.Acceptable solutions for stormwater drainage to be as per AS/NZS3500 part 3.2.s

TILELAYER

GENERALLY:
For guidance on installation of ceramic tiles see recommendations as set out in AS3958 parts 1 and 2.
WALLS:
Cover the following wall faces with selected glazed tiles:

To bathroom generally to a height of 135mm.
To bath recess to a height of 1350mm.
To shower recess to a height of 1800mm.
To enclosing of bath and hobs.
To WC to height of one row of tiles or as directed.

Above kitchen sink/s and cooking area/s allow for four rows tiles. Finish at top and salient angles with round edge tiles. Provide vent tiles and selected recess fittings. Tiles to be fixed to a backing of Fibre Cement with approved adhesive. Areas for tiles can be increased by owners direction.

FLOORS:
Cover floors of bathroom, shower recess, WC and ES with selected ceramic tiles, set in cement mortar or approved adhesive and graded to give an even and adequate fall to floor waste.

PAINTER

GENERALLY:

All paints, stains, varnishes and water colours are to be of approved brands as selected. Materials used for priming and undercoating are to be the same brand as the finishing paints or as recommended by the manufacturers of the finishes used. All finishing colours are to be selected by the Owner. Do all necessary stopping after the priming has been applied. Rub down all surfaces to a smooth finish prior the application of each successive coat of paint. External joinery or other exposed woodwork to have a clear plastic finish is to be treated with a priming oil containing wood preservative and a water repellent.

EXTERNALLY:

All external woodwork to be given one coat of primer, one coat of oil based undercoat or to be given one coat of primer, one coat of flat clear plastic and one coat of clear plastic.

PRIMING WEATHERBOARDS:

Baltic Pine is to be primed all round as well as on the ends before fixing: Hardwood, cypress pine, radiata pine and oregon are to be primed on external faces including rebates before fixing, pressure treated canada pine is to be primed at ends before fixing.

IRONWORK:

Eaves, gutters, downpipes, exposed service pipes and wrought iron etc. to be cleaned and primed and give one coat of gloss paint all round.

FIBRE CEMENT:

Clean and prepare all external fibre cement surfaces and finish with two coats of water based paint.

INTERNALLY:

All exposed woodwork in kitchen, bathroom, laundry WC EC to be prepared primed and then given one undercoat and finished with one coat of full gloss paint or to be stained and finished with two coats of clear liquid plastic as selected.

IRONWORK:

Paint flue pipes with one coat of aluminium paint. Clean down and prime all exposed service pipes and finish with one coat of gloss oil paint.

CEILINGS:

To be given one coat of sealer and two coats of paint. The finishing coat of bathroom, laundry, and kitchen ceilings to be semi gloss.

WALLS:

All rooms except bathroom, laundry and kitchen to be given one coat of sealer and two coats of water based paint. To bathroom, kitchen, WC EC and laundry where no tiled or pre surfaced material to be given one coat of sealer, one coat of undercoat and one coat of gloss paint.

GLAZIER: BCA part 3.6

All sashes, doors, fixed lights and other glass in building shall be selected by procedures as set out in AS1288 for type, thickness and area of glass according to wind loading, human impact and other considerations for glazing in frames of timber, steel, stainless steel, aluminium and bronze according to type of frame, height of building and glazing compound and for design and glazing of unframed toughened glass assemblies.

FENCING

Provide paling fence 1500mm height to side and rear boundaries. Posts to be 125 x 50mm in sawn approved durable hardwood, morticed for two rails and sunk into ground 600mm at maximum of 2700 mm. Angle posts to be 125mm. Well ram around posts. Where rock is encountered posts are to be set in concrete. Fit two rows of 75 x 50mm hardwood rails into mortises. Cover framing with hardwood palings. Double nail to rails at top and bottom. Cut line at top and lop corners. All timber in ground or concrete to be well tarred or treated with an approved preservative. Allow for repairing any existing fencing which is to remain.

FRONT FENCING:

Provide front fencing as directed.

BUSHFIRE PRONE AREAS - BCA part 3.7

Where a building is to be erected in a bush fire prone area the recommendations of AS3959 'Construction of buildings in Bush Fire Prone Areas' should be followed.

LANDSCAPING

The area to be landscaped shall comply with the landscape plan and requirements of the Local Council Authorities.

CARPARKING

All carparking and loading bays to be kerbed, guttered, sealed, drained, line marked and landscaped. Drainage of surface water into neighbouring properties is NOT permitted except where an easement is obtained. All car parks shall comply with the provision of Local Council Authorities.

COMPLETION

The building shall be completed in every trade. Sashes, doors, locks and all other equipment shall be checked and left in a satisfactory operating condition. Timber floors shall be at least rough sanded. Where fine sanding is specified see CA39: Code of practice for sanding interior wooden floors. All plant, surplus materials and rubbish removed from site. Gutters and drains shall be cleared and the building generally to be left clean and fit for occupation.

The Builder is to furnish the Owner with:

1 Notification of Completion
2 All Keys for all doors.
3 Certificate of termite protection treatment
4 Certificate from Sewerage Authority re-sanitary drainage.
5 Invoices for all PC items required.

It is the responsibility of the builder to arrange any inspections necessary by Local Council, Waterboard or Lending Authorities and/or Principal Certifying Authority.
It is the responsibility of the Owner to apply to Local Supply Authorities for connection of Electricity from mains to meter box.
'Approval to Occupy' must be obtained.

MASONRY EXTERIOR	Clay Bricks	☑	Face	☑	Commons	☐	Stone ☐
	Concrete Bricks	☐	Concrete Blocks	☐	AAC Blocks	☐	AAC Panels ☐
	Rendered	☐	Bagged	☐	Painted	☐	SOLDIER COURSES ☑
MORTAR JOINTS	Colour WHITE		Ironed	☑	Flush	☐	Raked ☐
SILLS	Brick	☑	Quarry Tiles	☐	.....	☐	
EXTERNAL WALL SHEETING	Timber Cladding	☐	Fibre Cement Cladding	☑	Metal Cladding	☐	PVC/Vinyl ☐
	Type.....		Type LINEA		Type.....		Type.....
FLOOR CONSTRUCTION	Timber	☑	Concrete	☑	Pre.Str. Beam Floor	☐	
FLOORING	T & G	☐	Species.....		Compressed FC Sheet	☐	Structural Plywood ☐
	Particle Board	☑	**Tiles:** Ceramic	☑	Terra Cotta	☐	Quarry ☐
DECKING	Treated Pine	☐	Other CONCRETE				
FRAME CONSTRUCTION	Timber	☑	Hardwood	☐	Pine	☐	Oregon ☐
	High strength galvanised steel framing			☐	Structural Steel	☐	..... ☐
ROOF CONSTRUCTION	Pitched Roof	☐	Exposed Rafters	☐	Oregon	☐	Hardwood ☐
	Roof Trusses	☑	Raked Ceiling	☐	Pine	☐	Steel Framing ☐
	Flat/Skillion	☑	.....	☐	.....	☐	
ROOF COVER	Concrete Tiles	☐	Terra Cotta Tiles	☐	Shingles/Slate	☐	Corrugated FC ☐
	Metal Profile.....		Zincalume	☐	Colorbond	☑	Polycarbonite ☐
THERMAL INSULATION	Roof/ceiling	☑	Rating R 3		Type.....		
	Walls	☑	Rating R 3		Type.....		
	Floors	☑	Rating R 2.5		Type AS PER PLAN .		
INTERNAL WALL LININGS	Gypsum Plasterboard	☑	FC Sheeting	☐	Timber Panelling	☐	Cement Render ☐
	Face Brick	☐	Other SOUNDCHECK		AS PER PLAN .		
WET AREA LININGS	WR Gyp. Plasterboard	☐	Villaboard	☑	Timber Panelling	☐	Laminated Panel ☐
CEILINGS	Gypsum Plasterboard	☑	Timber Panelling	☐	FC Sheeting	☐	
CORNICE	Type TEMPO		Size 90 mm		TO SELECTED AREAS. STANDARD OTHER.		
DOOR JAMBS	Timber	☑	Galvanised Steel	☐	.....	☐	
WINDOWS	Timber	☐	Aluminium	☑	Type/Manufacturer.....		
FLYSCREENS	Timber	☐	Aluminium	☑	Other	☐	
JOINERY	Timber	☑	Species.....		Stained/Polished	☐	Painted ☑
SPLAYED PROFILE	Architrave Size 75 mm		Skirting Size 150 mm		Material.....		
	Kitchen Cupboards TBC				Stained	☐	Painted ☐
	Front Door Type SOLID .				Stained	☐	Painted ☑
	Other External Doors Type SOLID .				Stained	☐	Painted ☑
	Internal Doors Type CORE CAMBRIDGE .				Stained	☐	Painted ☑
	Garage Door Type SLIMMASTER .				Size..... mm		Colour JASPER .
EXTERNAL STAIRS	Timber	☑	Steel	☐	Concrete	☑	
INTERNAL STAIRS	Timber	☑	Steel	☐	Concrete	☐	
	as manufactured by.....						
ELECTRICIAN	**Provide:**		Light Points 45		Single Switches.....		Two way switches.....
			Power Outlets 40		Single.....		Double.....
	Light Fittings.....				Smoke Dectectors 2		Exhaust Fans 2
ROOF PLUMBER	Quad Gutters (size.....)	☐	Box Gutters	☐	Sheerline Gutters	☐	..... ☐
GUTTERS/DOWNPIPES	Downpipes 100 x 50	☐	100 x 75	☐	100 x 100	☐	Round.....dia ☐
	Colorbond	☑	PVC	☐	Copper	☐	Zincalume ☐
	Aluminium	☐	Galvanised	☐			
WATER SERVICE	Copper pipe	☑	PVC Pipe	☐	Flexible pipe system	☐	Type.....
ONSITE STORAGE TANKS	Type CONCRETE		Size 8000		Nos.		Pressure Pump ☑
HOT WATER SERVICE	Electric	☐	Gas	☑	Solar	☐	.....
	Mains Pressure	☑	Gravity Fed	☐	Cylinder capacity.....litres		
INTERNAL SEWER SERVICE	Copper	☑	PVC	☐			
DRAINER	Sewer connection	☑	Septic System	☐	Aerated System	☐	Type.....
	PVC pipes	☐	Vitrified clay pipes	☐	Copper pipes	☐	
FENCING	Brick	☐	Paling	☐	Rail	☐	Brushwood ☐
	Front Boundary	☐	Side Boundary	☐	Rear Boundary	☐	
POOL	Type.....		Finish.....				

This Schedule is to be fully completed. Items applicable should be marked - items with blank spaces will NOT be included in the works

SCHEDULE OF RATE / P.C. ALLOWANCES AND MATERIALS

ITEMS	MODEL OR TYPE	PRIME COST
1. CONCRETE PIERS TO FOOTINGS Owners cost.		$
2. ROCK EXCAVATION : per cubic metre		$
3. AGRICULTURAL DRAINS: per lin. metre		$
4. STORMWATER ✓		$
5. SEWER DRAINS ✓		$
6. CERAMIC TILES WALL $ PER M2 S/O ✓		$
S/O=SUPPLY ONLY FLOOR $ PER M2 S/O		$
QUARRY $ PER M2 S/O		$
7. SEPTIC INSTALLATIONS ✓		$
8. BATHROOM VANITY & CABINET ✓		$
9. EN-SUITE VANITY & CABINET ✓		$
10. BASIN ✓		$
11. BATH ✓		$
12. TOWEL RAILS ✓		$
13. SOAP HOLDERS ✓		$
14. MIRRORS ✓		$
15. TOILET SUITES CHINA. ✓		$
16. SHOWER SCREENS ✓		$
17. LAUNDRY TUB ✓		$
18. STAINLESS STEEL SINK ✓		$
19. KITCHEN CUPBOARDS ✓		$
20. OVEN ✓		$
21. HOT PLATES ✓		$
22. STOVE ✓		$
23. DISHWASHER ✓		$
24. EXHAUST FANS ✓		$
25. RANGE HOOD ✓		$
26. HOT WATER UNIT ✓		$
27. SMOKE/FIRE DETECTORS ✓		$
28. PHONE WIRING/FAX WIRING ✓		$
29. T.V. WIRING ✓		$
30. INTERCOM WIRING ✓		$
31. SECURITY INSTALLATION ✓		$
32. AIR CONDITIONING, SINGLE UNIT ✓		$
33. INTERNAL VACUUM SYSTEM ✓		$
34. FRONT GATE X		$
35. FRONT FENCE X		$
36. CLOTHES HOIST ✓		$
37. CONCRETE PATHS per lin. metre X		$
38. GARAGE DOOR REMOTE CONTROL 2 ✓		$
39. LANDSCAPING (As per Design Supplied) X		$
40. UNIT PAVING X		$
41. RAINWATER TANKS ✓		$
42.		$
43.		$

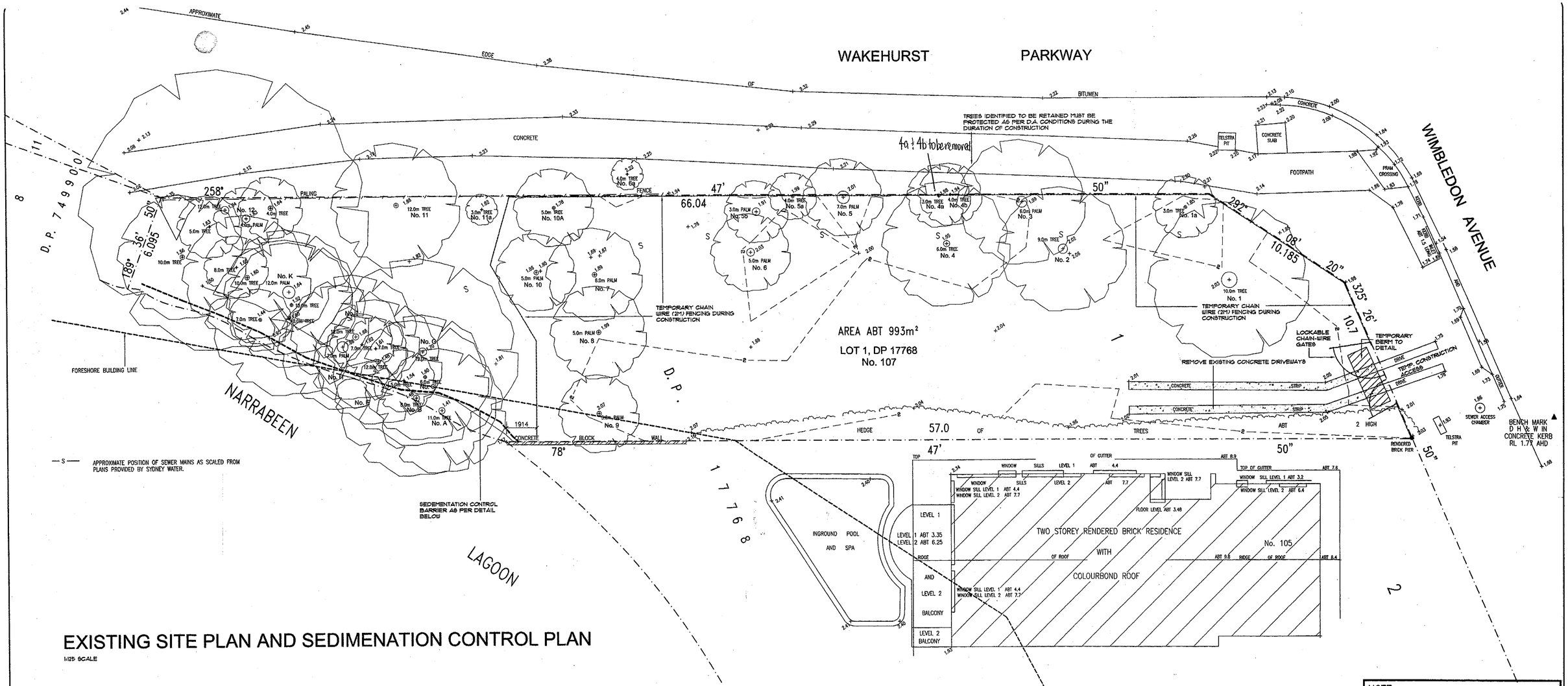
NOTE: The builder is to allow Prime Costs amounts of items set out in this Schedule above. All items to be selected by Owner. The Builders tender is to include the provision of all items, including the cost of cartage, freight, fixing and fitting as part of his contract. Adjustment for substituted fittings will be made on the basis of the prevailing retail price.

This is the specification referred to in the Contract dated: ...../...../.....

Date for Completion .....

A Kilpatrick ..... OWNER 5 , 1 , 06

Graham Ford ..... BUILDER 13 , 1 , 06.

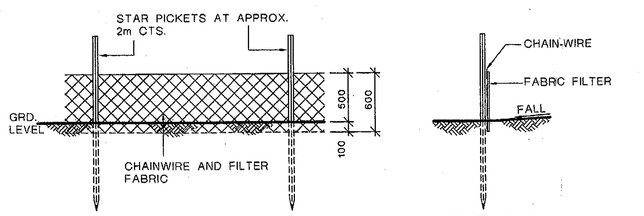


EXISTING SITE PLAN AND SEDIMENATION CONTROL PLAN

1:125 SCALE

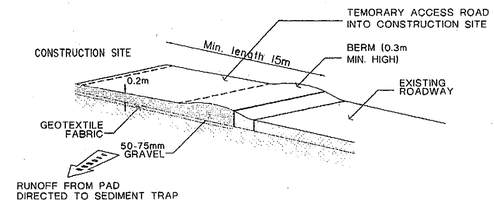
SEDIMENT / EROSION CONTROL NOTES:

1. ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH COUNCIL'S STANDARD SPECIFICATION AND TO THE SATISFACTION OF COUNCIL'S ENGINEERS.
2. EXISTING CONTOURS SHOWN THUS: —— —— —— 10.00
   EXISTING SPOT LEVELS SHOWN THUS: (9.94)
3. DESIGN CONTOURS SHOWN THUS: ———— 10.00
   DESIGN SPOT LEVELS SHOWN THUS: RL 10.00
4. EROSION AND SEDIMENTATION CONTROLS SHALL BE CONSTRUCTED AS SHOWN ON THIS PLAN AND/OR WHERE DIRECTED BY COUNCIL ENGINEER.
5. SEDIMENTATION AND EROSION CONTROL DEVICES SHALL BE IMPLEMENTED PRIOR TO OR IN CONJUCTION WITH THE FIRST PHASE OF EARTHWORKS AND SHALL BE REMOVED ONLY WHEN THE AREA ABOVE IT IS STABILISED. EACH SEDIMENTATION AND EROSION CONTROL DEVICES SHALL BE INSPECTED AFTER EACH STORM FOR STRUCTURAL DAMAGE OR CLOGGING BY SILT AND OTHER DEBRIS AND PROMPTLY REPAIRED OR REPLACEMENT IF REQUIRED.
6. WHERE SITE REGRADING OR FILLING IS BEING UNDERTAKEN, SURFACE WATER SHALL BE DIRECTED AWAY FROM THE FACE OF BATTERS.
7. TOPSOIL STOCKPILES SHALL BE LOCATED OUTSIDE HAZARD AREAS SUCH AS DRAINAGE DEPRESSIONS.
8. ALL AREAS NOT SUBJECT TO CONSTRUCTION WORKS SHALL BE RETRAINED FREE FROM DISTURBANCE OR DAMAGE DURING THE CURRENCY OF THE WORKS.
9. DIVERSION CHANNELS SHALL BE CONSTRUCTED IN ACCORDANCE WITH DESIGN LEVELS AND SUCH THAT RUNOFF WILL DISCHARGE ONTO STABLE DISPOSAL AREAS (I.E. AREAS NOT SUBJECT TO CONSTRUCTION WORKS) OR INTO SEDIMENTATION AND EROSION CONTROL DEVICE
10. A SILT/SEDIMENTENT FENCE SHALL BE EMBEDDED AT LEAST 150mm INTO THE SOIL PREVENT WATER TUNNELLING BENEATH FENCE (SEE STANDARD DETAIL FOR SILT FENCING). AT THE LOWEST POINT ALONG THE FENCE AND ON THE UPHILL SIDE A LEVEL SPREADER OF AT LEAST 3 METRES LONG AND 2 METRES WIDE SHALL BE EXCAVATED AT ZERO GRADE.



NOTE: CHAINWIRE TIED TO PICKETS WITH WIRE AND FABRIC TIED TO CHAINWIRE WITH WIRE.
CHAINWIRE AVAILABLE IN 15m ROLLS FROM BORAL CYCLONE.
SUITABLE FILTER FABRIC: BIDIM U14 OR PRO-PEX 4545 (NON-WOVEN FELT) OR POLYWEAVE F (WOVEN)

SILT FENCE N.T.S.



TEMPORARY CONSTRUCTION SITE ACCESS DETAIL

N.T.S

COUNCIL COPY

This is the plan/spec referred to in Greenfield Accredited Certifiers Certificate
2006-7002
Cert No: .....
Officer: Kieran Tobin
Accreditation No: 44

NOTE:

1. LEVELS SHOWN THUS +1.77 ARE BASED ON AUSTRALIAN HEIGHT DATUM
2. ORIGIN OF LEVELS – P.M. 10258 R.L. 1.8 AHD LOCATED AT THE INTERSECTION OF WAKEHURST PARKWAY AND WIMBLEDON AVENUE.
3. DO NOT SCALE – USE FIGURED BEARINGS & DISTANCES ONLY
4. CONTOURS ARE AT 0.5 METRE INTERVALS AND ARE APPROXIMATE ONLY. SPOT LEVELS SHOULD BE USED IN PREFERENCE TO CONTOUR VALUES
5. BASIC LEVEL AND DETAIL SURVEY ONLY – UNLESS OTHERWISE SHOWN, THE POSITION OF IMPROVEMENTS ARE APPROXIMATE. THE INFORMATION SHOWN HEREON IS ONLY TO BE USED AT AN ACCURACY OF 1:100
6. FEATURES & LEVELS CRITICAL TO DESIGN SHOULD BE LOCATED BY A MORE ACCURATE SURVEY
7. ALL SET OUT WITH REGARD TO LEVELS SHOULD BE REFERRED TO THE BENCH MARK
8. OTHER THAN THE SEWER MAIN, NO SERVICES SEARCH HAS BEEN CARRIED OUT FOR THIS SURVEY
9. ORIGIN OF THE NORTH POINT IS D.P. 649757. THE POSITION OF TRUE NORTH IS APPROXIMATE ONLY. A MORE ACCURATE SURVEY WOULD BE REQUIRED TO DETERMINE ITS EXACT POSITION
10. THE SUBJECT LAND IS AFFECTED BY A COVENANT CREATED BY THE REGISTRATION OF TRANSFER No. C975076

BYRNE & ASSOCIATES PTY LIMITED
CONSULTING SURVEYORS & ENGINEERS
63 WATERLOO STREET
NARRABEEN 2101
A.C.N. 001 951 358
Ph: (02) 9913 7110 Fax: (02) 9913 1583
Email: bysurvey@ozemail.com.au

NOTES:

- Contractor must verify all dimensions on site prior to commencement of any construction work or shop drawings.
- Only figured dimensions to be used. Do not scale off architectural drawings.
- Scaled dimensions must be verified.

Issue	Amendment	Initials	Date

N

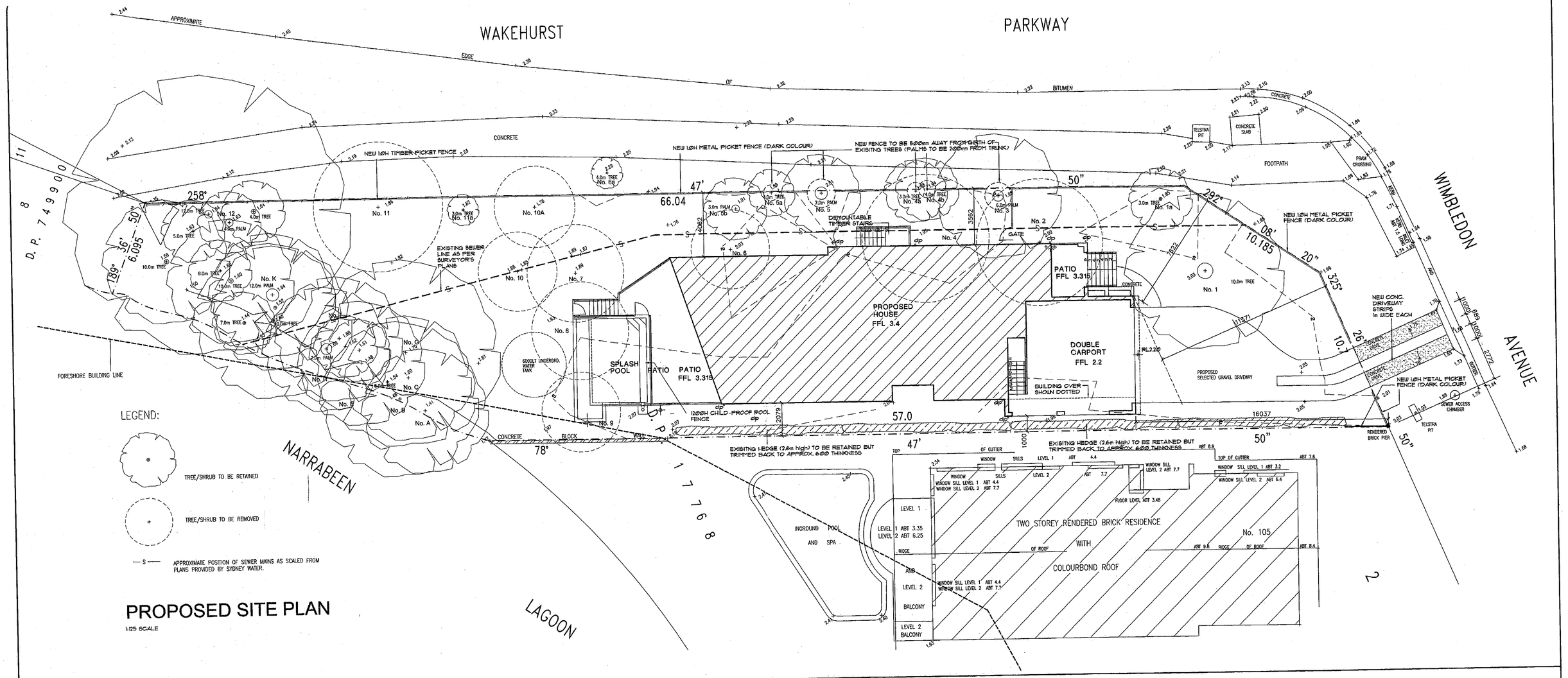
URBANform D.E.S.I.G.N.S Pty Limited A.C.N. 085 203 755
LOUIS RIZZO B.Arch. Hons. UTS
2 NORN CLOSE GREENFIELD PARK N.S.W. 2176, AUSTRALIA
Telephone: (02) 9823-9365
Facsimile: (02) 9823-6117
Email: louis@urbanform.com.au

Project/Client
Prop. New Residence for: Mr. Tim Fitzpatrick

Lot 1, D.P. 17768, No. 107 Wimbledon Avenue Narrabeen, NSW

Title
Existing Site & Sedimentation Control Plan

Drawn	Date	Project No.
LR	18.10.05	5011
Checked		
Scale 1:125	Drwg. No.	Issue
Sheet 01 of 00	A-01	A



PROPOSED SITE PLAN

1:125 SCALE

BASIX REQUIREMENTS:

Fixtures:
The applicant must install showerheads with a minimum rating of 2A in all showers in the development.
The applicant must install a toilet flushing system with a minimum rating of 1A in each toilet in the development.
The applicant must install taps with a minimum rating of 2A in the kitchen in the development.
The applicant must install basin taps with a minimum rating of 2A in each bathroom in the development.

Alternative water:
Rainwater tank:
The applicant must install a rainwater tank with a capacity of at least 6000 litres on the site.
This rainwater tank must meet, and be installed in accordance with, the requirements of all applicable regulatory authorities.
The applicant must configure the rainwater tank to collect rain runoff from at least 270 square metres of the roof area of the development (excluding the area of the roof which drains to any stormwater tank or private dam).
The applicant must connect the rainwater tank to:
- all toilets in the development
- at least one outdoor tap in the development (Note: NSWHealth does not recommend that rainwater be used for human consumption in areas with potable water supply.)

Swimming pool:
The swimming pool must not have a volume greater than 26.4 kilolitres.
The swimming pool must have a pool cover.
The swimming pool must be protected and shaded.

Thermal Comfort Commitments:
Simulation Method:
The applicant must construct the development in accordance with all thermal performance specifications set out in the Assessor Certificate, and in accordance with those aspects of the development application or application for a complying development certificate which were used to calculate those specifications.
The applicant must construct the development so that is has a suspended floor, and the following circumstance must apply: dwelling located in flood-prone area.

Energy Commitments:
Hot water:
The applicant must install the following hot water system in the development, or a system with a higher energy rating, or a system with a higher energy rating: gas instantaneous - 3 Star

Cooling system:
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 living area: ceiling fans + 3-phase airconditioning; Energy rating: EER < 2.5

Cooling system (contin.):
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 bedroom: ceiling fans + 3-phase airconditioning; Energy rating: EER < 2.5
The cooling system must provide for day/night zoning between living areas and bedrooms.

Heating system:
The applicant must install the following heating system, or a system with a higher energy rating, in at least 1 living area: 3-phase airconditioning; Energy rating: EER < 2.5
The applicant must install the following heating system, or a system with a higher energy rating, in at least 1 bedroom: 3-phase airconditioning; Energy rating: EER < 2.5
The heating system must provide for day/night zoning between living areas and bedrooms.

Ventilation:
The applicant must install the following exhaust systems in the development:
The applicant must install the following exhaust systems in the development:

At least 1 Bathroom: no mechanical ventilation (ie. natural); Operation control: n/a
Kitchen: individual fan, ducted to fa?ade or roof; Operation control: manual switch on/off
Laundry: no mechanical ventilation (ie. natural); Operation control: n/a

Artificial lighting:
The applicant must ensure that the "primary type of artificial lighting" is fluorescent lighting in each of the following rooms, and where the word "dedicated" appears, the fittings for those lights must only be capable of accepting fluorescent lamps:
- at least 5 of the bedrooms / study;
- at least 2 of the living / dining rooms;
- the kitchen; all bathrooms/toilets; the laundry; all hallways

Natural lighting:
The applicant must install a window and/or skylight in 4 bathroom(s)/toilet(s) in the development for natural lighting.

Swimming pool:
The development must not incorporate any heating system for the swimming pool.
The applicant must install a timer for the swimming pool pump in the development.

Other:
The applicant must install a gas cooktop & electric oven in the kitchen of the dwelling.
The applicant must construct each refrigerator space in the development so that it is "well ventilated", as defined in the BASIX
The applicant must install a fixed outdoor clothes drying line as part of the development.

This is the plan/spec referred to in Greenfield Accredited Certifiers Certificate
2006-7002
Cert No: .....
Officer: Kieran Tobin
Accreditation No: 44

NOTES:

- Contractor must verify all dimensions on site prior to commencement of any construction work or shop drawings.
- Only figured dimensions to be used. Do not scale off architectural drawings.
- Scaled dimensions must be verified.

Issue	Amendment	Initials	Date

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Project/Client
Prop. New Residence
for:
Mr. Tim Fitzpatrick

Lot 1, D.P. 17768, No. 107
Wimbledon Avenue
Narrabeen, NSW

Title
Prop. Site Plan

Drawn LR	Date 16.10.05	Project No. 5011
Checked	Drgs. No.	Issue
Scale 1:125	A-02	A
Sheet 02 of 00		

FIXTURES / COMPONENTS

AP	ACCESS PANEL	CWM	CHAIN WIRE MESH	LVR	LOUVRE
APD	AGRICULTURAL PIPE DRAIN	D . .	DOOR (number nominated)	KS	KITCHEN SINK
AIR/CON	AIR CONDITION	DW	DISHWASHER	MSD	MAIN SWITCH BOARD
AL	ALUMINIUM	DSB	DISTRIBUTION SWITCH BOARD	REF	REFIGERATOR
ASPH	ASPHALT	DP	DOWN PIPE	RS	ROLLER SHUTTER
BAL	GMS BALUSTRADE	EXH	EXHAUST HOOD	RWH	RAIN WATER HEAD
BID	BIDET	FW	FLOOR WASTE	RS	RAINWATER SPITTER
BIT	BITUMEN	GM	GAS METER	SD	SLIDING DOOR
BHD/O	BULKHEAD OVER	GD	GRATED DRAIN	STK	STACK HYDRAULIC
B/O	STRUCT. BEAM OVER TO ENG'R. DET.	H	HAND RAIL	SMK	SMOKE DOCTOR - CEILING MOUNTED
B/S	BRASS STRIP	HB	HAND BASIN	SHW	SHOWER
BSN	BASIN	HP	HOT PLATE	SWD	STORM WATER DRAIN
CSS	STRUCTURAL STEEL COLUMN	HT	HOSE TAP	T	LAUNDRY TUB
CW	COLD WATER	HWS	HOT WATER SYSTEM	URL	URINAL
		ICS	INTERCOMMUNICATIONS SYSTEM	V	VANITY UNIT
				VP	VENT PIPE
				WC	WATER CLOSET
				W . .	WINDOW (number nominated)
				WM	WASHING MACHINE

FIRST FLOOR PLAN

1:100 SCALE

NOTES: *1 - DOUBLE GLAZED WINDOWS
*2 - GLASS BLOCK WINDOWS

SUN SHADING AWNING PERGOLA OVER
SUN SHADING AWNING PERGOLA BELOW - 600 deep
SUN SHADING AWNING PERGOLA BELOW
SUN SHADING AWNING PERGOLA ABOVE
SUN SHADING AWNING PERGOLA BELOW
SUN SHADING AWNING PERGOLA ABOVE
ROOF
RUMPUS CPT
bathroom
BED 4 CPT
WARDROBE
BED 3 CPT
ENS.
CORRIDOR CPT
LINEN
WARDROBE
W/IN W/B
BED 1 CPT
STAIRS
BED 2 CPT
PRIVACY ALUM. LOUVRE
dp - spreader
ROOF

WINDOW SCHEDULE

WINDOW NUMBER	WINDOW SIZE W x HT	No. Off	COMMENTS
W01a, W01b	1438 x 600	2	alum sliding window
W02	1050 x 3250	1	glass block window
W03a, W03b	1782 x 600	2	alum sliding window
W04, 05, 16, 17, 18, 19, 20 29, 30	610 x 600	7	alum fixed window except W19 (awning) note: W18, 19, 20 to be double glazed W18 & 20 to have obscure glazing
W06, 08	1144 x 2100	2	alum sliding window
W07	4363 x 2100	1	alum sliding double doors
W09a, 09b	1510 x 1800	1	alum awning window, double glazed
W10, 11	850 x 1800	2	alum awning window, double glazed
W12, 13	850 x 1362	2	alum awning window, . double glazed
W14	610 x 860	1	alum awning window, obscure glass
W15a, 15b	1202 x 860	2	alum awning window, double glazed
W24, 25, 26	610 x 600	3	alum awning window, double glazed
W21, 22, 23	850 x 1800	3	alum awning window, double glazed
W27	2176 x 1362	1	alum sliding window
W28	724 x 1362	1	alum fixed window
W31	2632 x 1191	1	alum sliding window
W32	2632 x 1362	1	alum sliding window, double glazing
W33a, 33b	1791 x 600	2	alum awning window, double glazing
W34, 35	850 x 1020	2	alum awning window, obscure glazing
W36, 37, 38, W39, 40	850 x 1200	5	alum awning window, double glazed

GROUND FLOOR PLAN

1:100 SCALE

size: 3670 x 600
size: 2650 x 600
size: 4820 x 600
SUN SHADING AWNING LOUVRE size: 7825 x 900
SUN SHADING AWNING LOUVRE OVER
ROOF OVER SHOWN DOTTED
DEMOUNTABLE TIMBER STAIRS
SUN SHADING AWNING LOUVRE OVER
FLOOR OVER SHOWN DOTTED
FAMILY RM CT FFL 3.4
KITCHEN CT EXH
CUPBD OVER
CUPBD OVER LDRY CHUTE
L'DRY CT
scullery
STUDY CPT
ENTRY CT
PATIO FFL 3.315 TCT
FG 2.1
TOW 3.315
TOW 2.715
PLANTER
PLANTER
1000H HRAIL
LINE OF BENCH UNDER
WATER SPILL POOL
WET EDGE
SPLASH POOL
PATIO TCT FFL 3.315
TOW 3.10
1200H CHILD-PROOF POOL FENCE
POOL SKIMMER BOX
TOW 3.315
TOW 2.10
rl 2.00
rl 1.90
provide 300mm gap in fence
ROOF PARAPET OVER SHOWN THUS
MEALS CT
2400H SQUARE SET
HIGHLIGHT WINDOW
STAIRS
str.
FORMAL DINING CPT FFL 3.4
2400H SQUARE SET
HIGHLIGHT WINDOW
PANEL-LIFT DOOR
DOUBLE CARPORT CONC/ST FFL 2.2
50mm FALL
BUILDING OVER SHOWN DOTTED
FLOOR OVER CANTILEVERED SHOWN DOTTED
2200H SQUARE SET
2200H SQUARE SET

NOTES: *1 - DOUBLE GLAZED WINDOWS
*2 - GLASS BLOCK WINDOWS

◈ = REFER TO SHEET A-XX FOR ELEVATIONAL DETAILS OF INTERNAL FEATURE WALLS

WALL MATERIALS & FINISHES

- 250 BRICK-VENEER, - 110 BRK / 50 CAV. / 90 SS - BRADFORD R3.0 SOUNDSCREEN BATTS BETWEEN STUDS
- 110 BRICKWORK WITH 13mm CEMENT RENDER INTERNAL SIDE
- 90mm TIMBER STUD WALL WITH PLASTERBOARD LINING, UNLESS NOTED OTHERWISE ON PLAN
- 90A (TYPE A WALL) 90mm TIMBER STUD ACOUSTIC/THERMAL WALL: EXTERNAL FACE: JAMES HARDIE LINEA (180mm wide) FIBRE CEMENT SHEETING WITH VAPOUR BARRIER BEHIND IT, FOLLOWED BY 1 x 13mm GYPROCK FYRECHEK MR PLASTERBOARD - TIMBER STUDS AT 600mm MAX. CENTRES - INTERNAL LINING MATERIAL: - BRADFORD R3.0 SOUNDSCREEN BATTS - 2 x 10mm GYPROCK SOUNDCHEK PLASTERBOARD
- 90B 90mm TIMBER STUD ACOUSTIC/THERMAL WALL: EXTERNAL FACE: JAMES HARDIE LINEA (180mm wide) FIBRE CEMENT SHEETING WITH VAPOUR BARRIER BEHIND IT, FOLLOWED BY 1 x 13mm GYPROCK FYRECHEK MR PLASTERBOARD - TIMBER STUDS AT 600mm MAX. CENTRES - INTERNAL LINING MATERIAL: - BRADFORD R3.0 SOUNDSCREEN BATTS - 1 x 10mm GYPROCK AQUACHEK WET WALL LINING
- 90C 90mm TIMBER STUD ACOUSTIC/THERMAL WALL: EXTERNAL FACE: JAMES HARDIE LINEA (180mm wide) FIBRE CEMENT SHEETING WITH VAPOUR BARRIER BEHIND IT. - TIMBER STUDS AT 600mm MAX. CENTRES - INTERNAL LINING MATERIAL: - BRADFORD R3.0 SOUNDSCREEN BATTS - 1 x 13mm GYPROCK PLASTERBOARD
- 75 75mm TIMBER STUD WALL WITH PLASTERBOARD LINING, UNLESS NOTED OTHERWISE ON PLAN
- A/P 76mm TIMBER STUD WALL WITH F/C LINING & 600 x 1200 SCREW FIXED ACCESS PANEL

CFC	COMPRESSED FIBRE CEMENT LINING
CJ	CONSTRUCTION JOINT
EJ	EXPANSION JOINT
FB	FACE BRICKWORK
FC	FIBRE CEMENT LINING
ICW	INSITU REIN. CONC. WALL
P	PAINT FINISH
PBD	PLASTERBOARD LINING
PJ	PRECAST PANEL JOINT
PCP	PRECAST REIN. CONC. PANEL

FLOOR MATERIALS & FINISHES

CPT	CARPET
CONC/. .	CONCRETE FINISHED AS FOLLOWS:
BR	BROOM FINISH
EP	EPOXY FINISH
GR	GRANOLITHIC SCREED
OL	OIL RESISTANT SEALER
NST	MECHANICAL STEEL TROWEL
ST	STEEL TROWEL
T&G	TONGUE & GROOVE POLISHED
TIMB	TIMBER FLOOR BOARDS
CT	CERAMIC TILES
GRT	GRANITE FLOORING
MAR	MARBLE FLOORING
TER	TERRAZZO FLOORING
TCT	TERRA-COTTA FLOOR TILES
PAV	PAVING SELECTED
SSV	SAFETY SHEET VINLY
SV	SHEET VINYL
VT	VINYL TILE

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Issue	Amendment	Initials	Date
A	Construction Issue	LR	xxxxxx

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Mr.Tim Fitzpatrick

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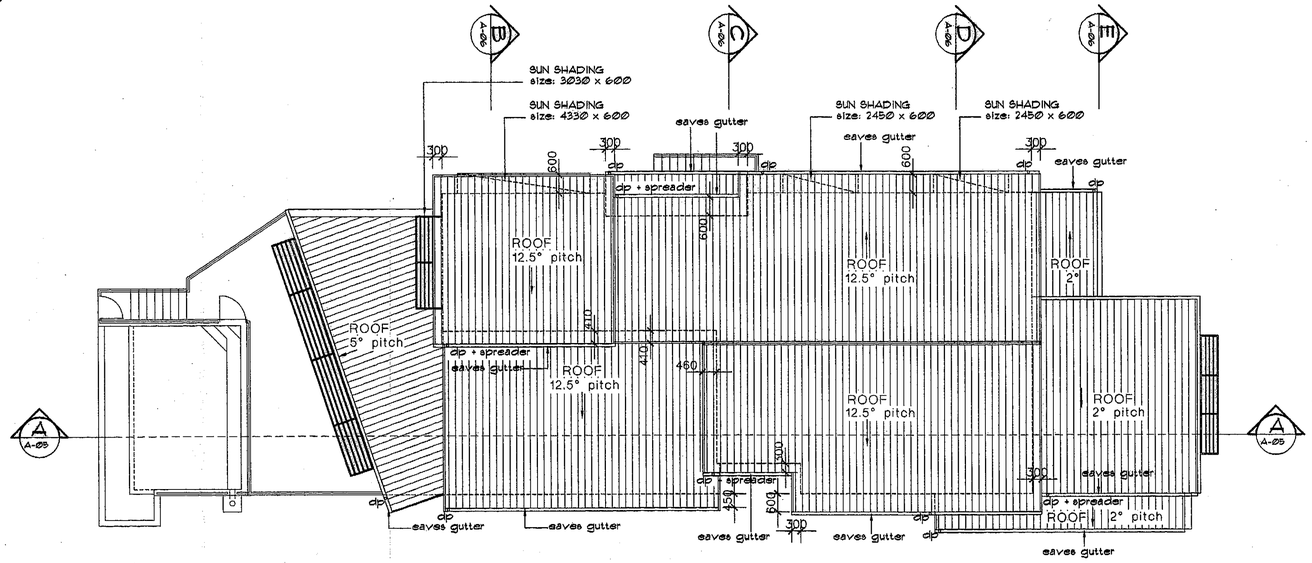
Wimbledon Avenue
Narrabeen, NSW

Project:
Prop. New Residence

Title:
Ground Floor Plan

This is the plan/sec referred to in Greenfield Accredited Certifiers Certificate
Cert No: 2006-7002
Officer: Kieran Tobin
Accreditation No: 44

Drawn	Date	Project No.
LR	18.10.05	5011
Checked	Scale	
	1:100	
Approved		Drw. No. / Issue
		A-03 / A
		Sheet of 03 xx



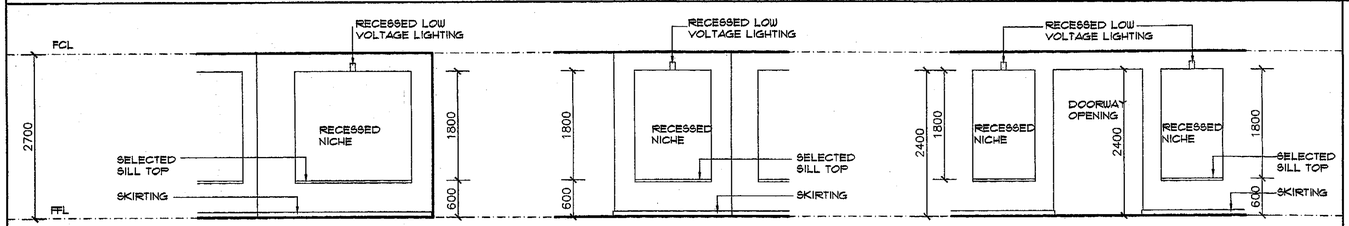
ROOF PLAN

1:100 SCALE

ROOF CLADDING: GENERALLY LYSAGHT CUSTOM ORB - FINISH SUITABLE FOR COASTAL CONDITIONS.
ROOF SHOWN PITCHED AT 2 DEGREES TO BE LYSAUGH SPANDEK HI-TEN - FINISH SUITABLE FOR COASTAL CONDITIONS.

ROOF/CEILING SYSTEM:

- SHEET METAL AS SPECIFIED
- SARKING 400g/m2
- BRADFORD R3.0 SOUNDSCREEN BATTS
- 1 x 13mm GYPROCK PLASTERBOARD



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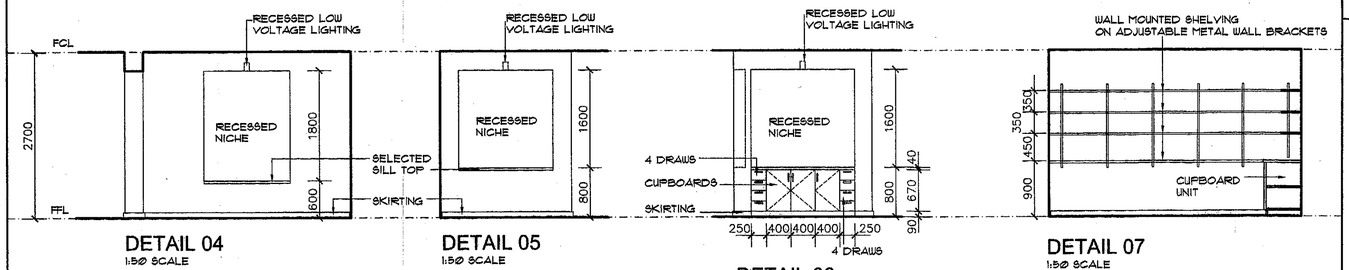
DETAIL 02
1:50 SCALE

DETAIL 03
1:50 SCALE



DETAIL 04
1:50 SCALE

DETAIL 05
1:50 SCALE

DETAIL 06
1:50 SCALE

DETAIL 07
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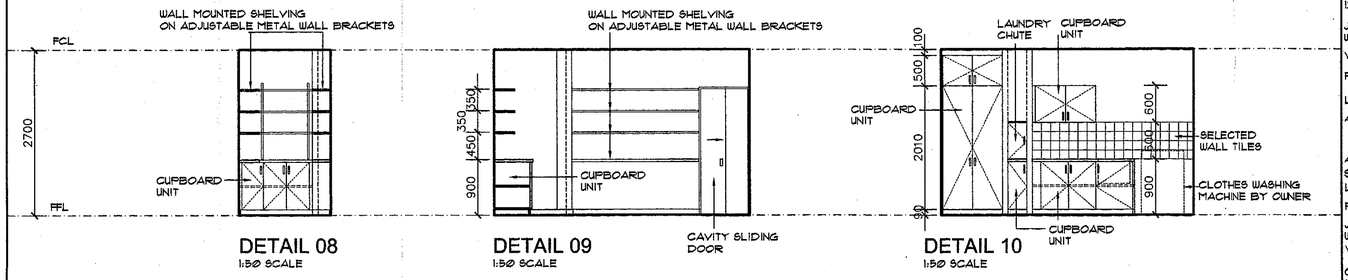


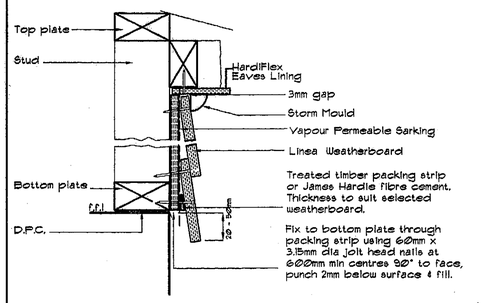
DETAIL 08
1:50 SCALE

DETAIL 09
1:50 SCALE

DETAIL 10
1:50 SCALE

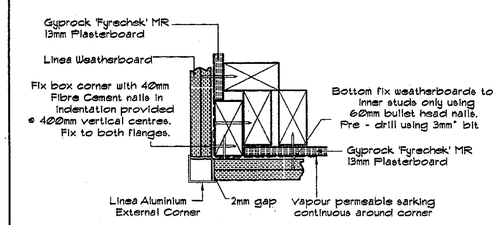
ELEVATIONAL DETAILS OF FEATURE WALLS & SELECTED JOINERY

1:50 SCALE



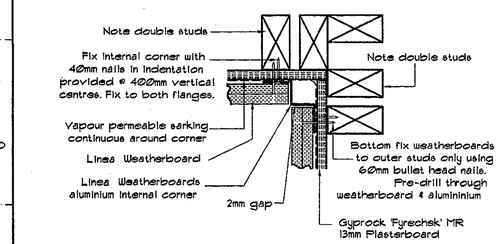
External Corner - Linea Trim

1:5 SCALE



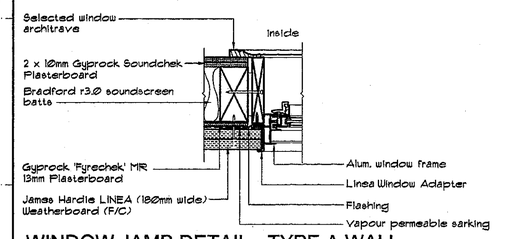
External Corner - Linea Trim

1:5 SCALE



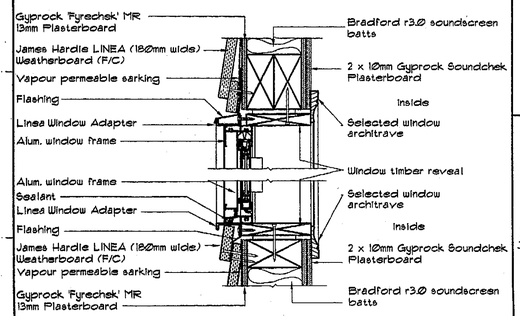
Internal Corner - Linea Internal Corner Mould

1:5 SCALE



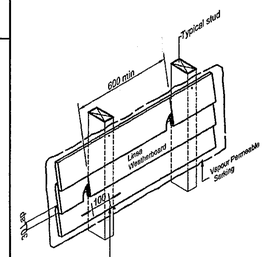
WINDOW JAMB DETAIL - TYPE A WALL

1:5 SCALE



WINDOW HEAD & SILL DETAIL - TYPE A WALL

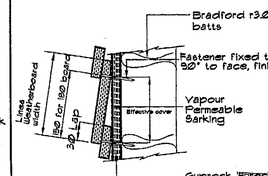
1:5 SCALE



Tongue & groove joint in weatherboard to be 100mm minimum from side of stud.
Joint to be located at 600mm min between adjacent weatherboards.

Tongue and Groove Joint Detail

N.T.S. SCALE



Concealed Fixing Detail

1:5 SCALE

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Client:
Mr.Tim Fitzpatrick

Address:
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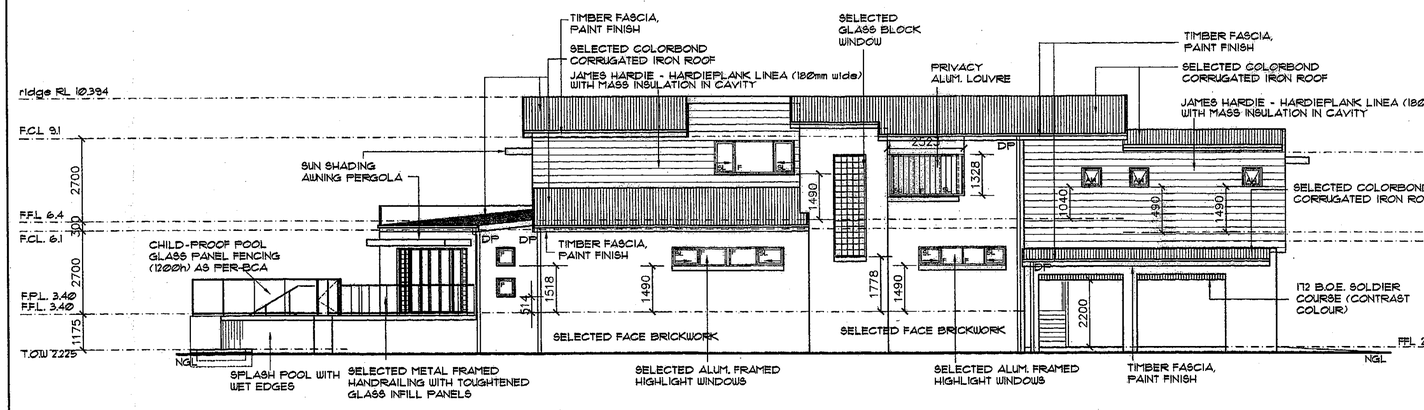
Wimbledon Avenue
Narrabeen, NSW

Project:
Prop. New Residence

Title:
Roof Plan and Construction Details

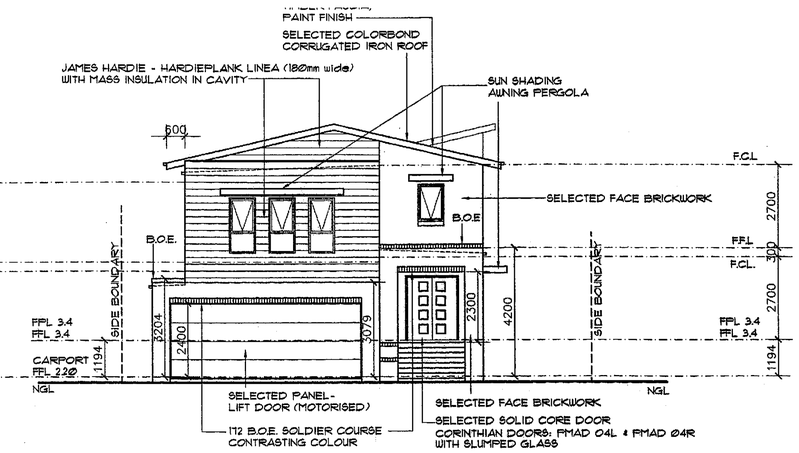
Drawn	Date	Project No.
LR	19.10.05	5011
Checked	Scale	Drw. No. / Issue
	1:100	A-04 / A
Approved		Sheet of 04 xx

Certified plan/spec referred to in Greenfield Accredited Certifiers Certificate
2006-7002
Cert No: .....
Officer: Kieran Tobin
Accreditation No: 44



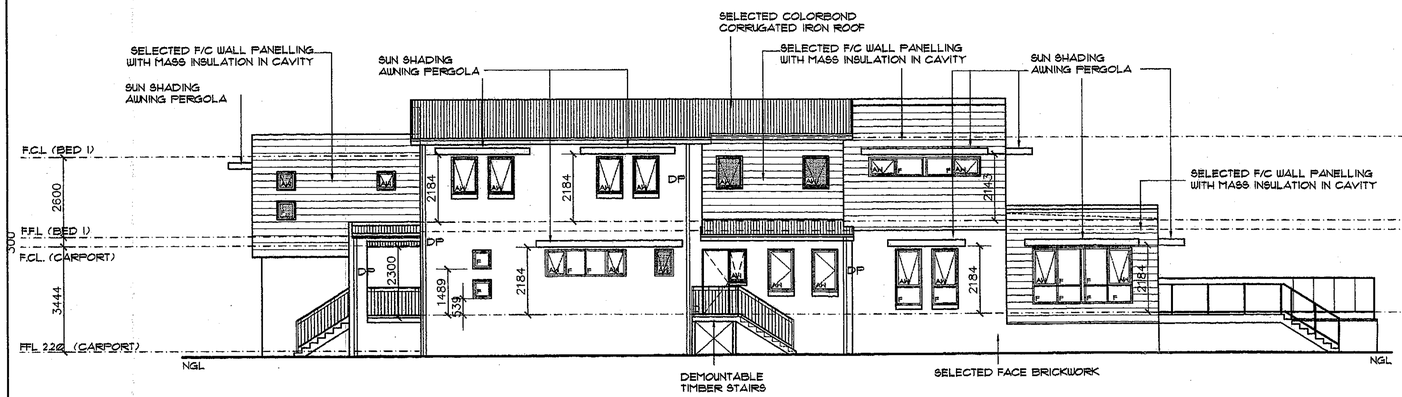
SOUTH ELEVATION

1:100 SCALE



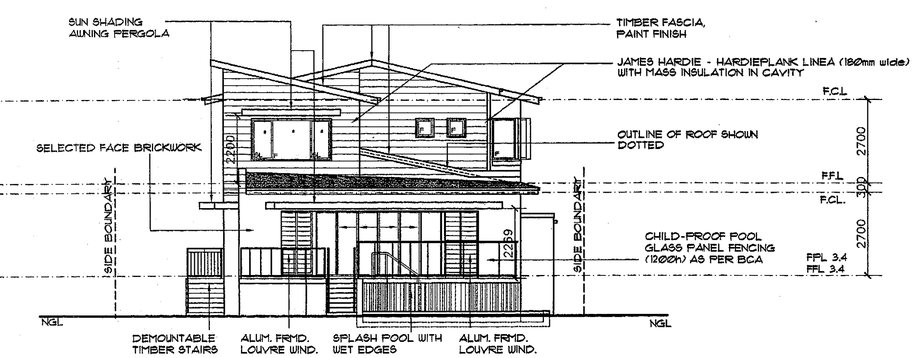
WIMBLEDON AVEN. - EAST ELEVATION

1:100 SCALE



WAKEHURST PARKWAY - NORTH ELEVATION

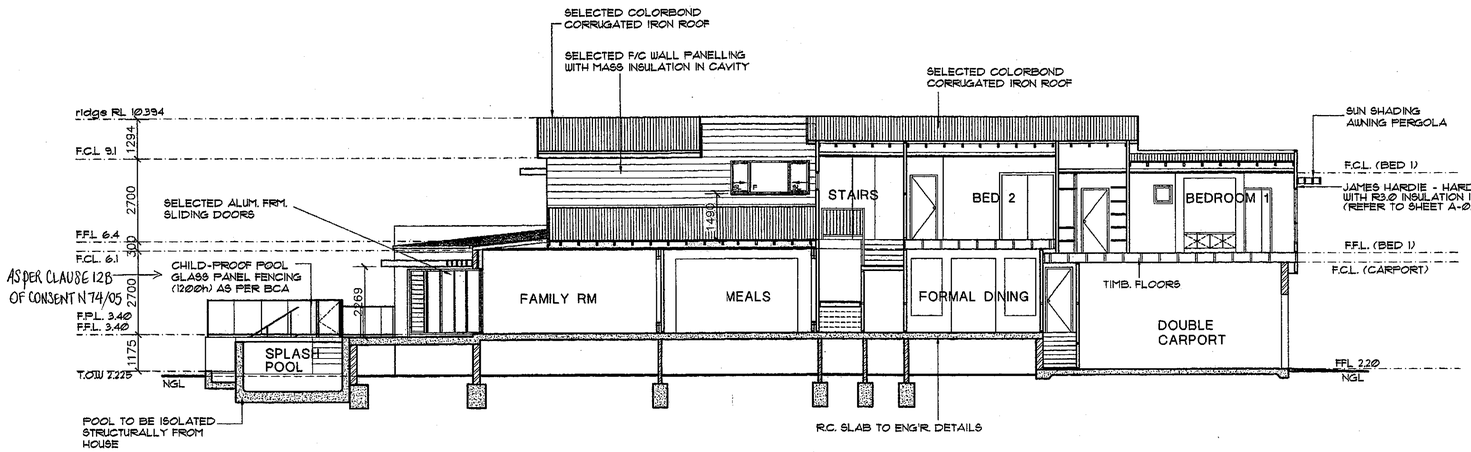
1:100 SCALE



WEST ELEVATION

1:100 SCALE

* - windows marked thus to have external adjustabe vertical sun shades



LONG SECTION A-A

1:100 SCALE

This is the plan/spec referred to in Greenfield Accredited Certifiers Certificate
Cert No: 2006-7002
Officer: Kieran Tobin
Accreditation No: 44

NOTES:

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Issue	Amendment	Initials	Date

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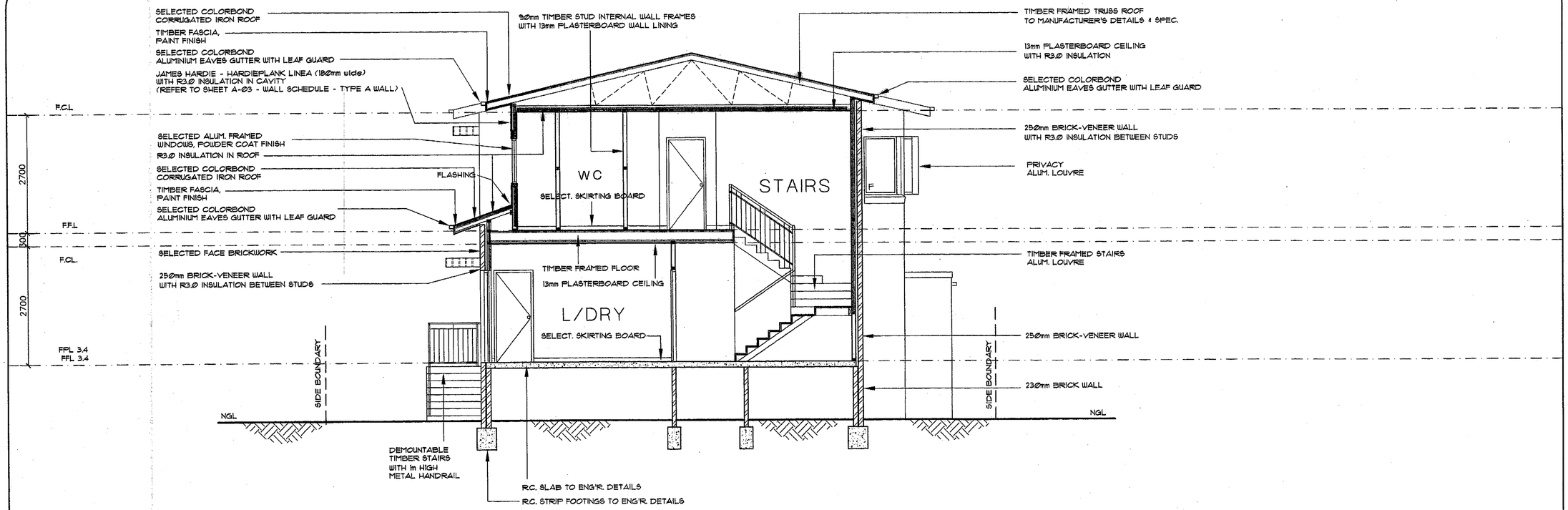
Project/Client
Prop. New Residence for:
Mr. Tim Fitzpatrick

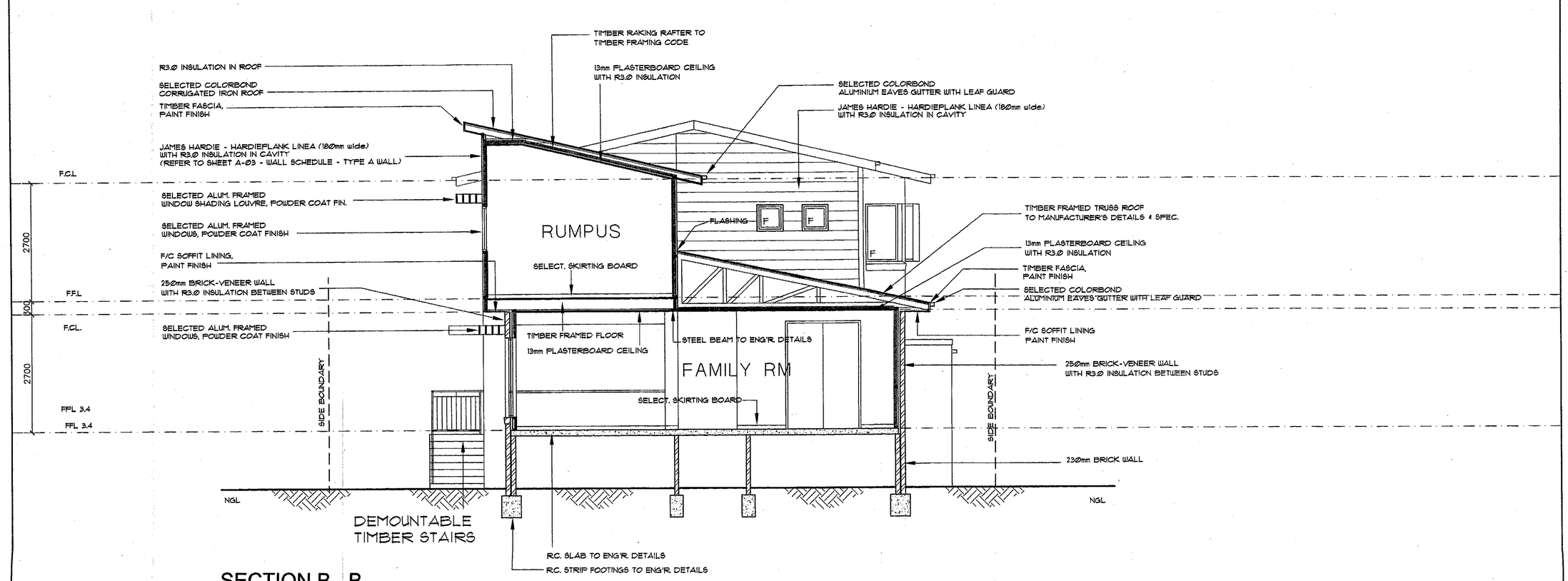
Lot 1, D.P. 17768, No. 107
Wimbledon Avenue
Narrabeen, NSW

Title
Elevations & Section

Drawn LR	Date 16.10.05	Project No. 5011	
Checked	Drgn. No. A-05	Issue A	
Scale 1:100			
Sheet 05 of 00			



SECTION C - C
1:50 SCALE



SECTION B - B
1:50 SCALE

- Contractor must verify all dimensions on site prior to commencement of any construction work or shop drawings.
- Only figured dimensions to be used. Do not scale off architectural drawings.
- Scaled dimensions must be verified.
-

Issue	Amendment	Initials	Date
A	Construction Issue	LR	xxxxxx

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Mr.Tim Fitzpatrick

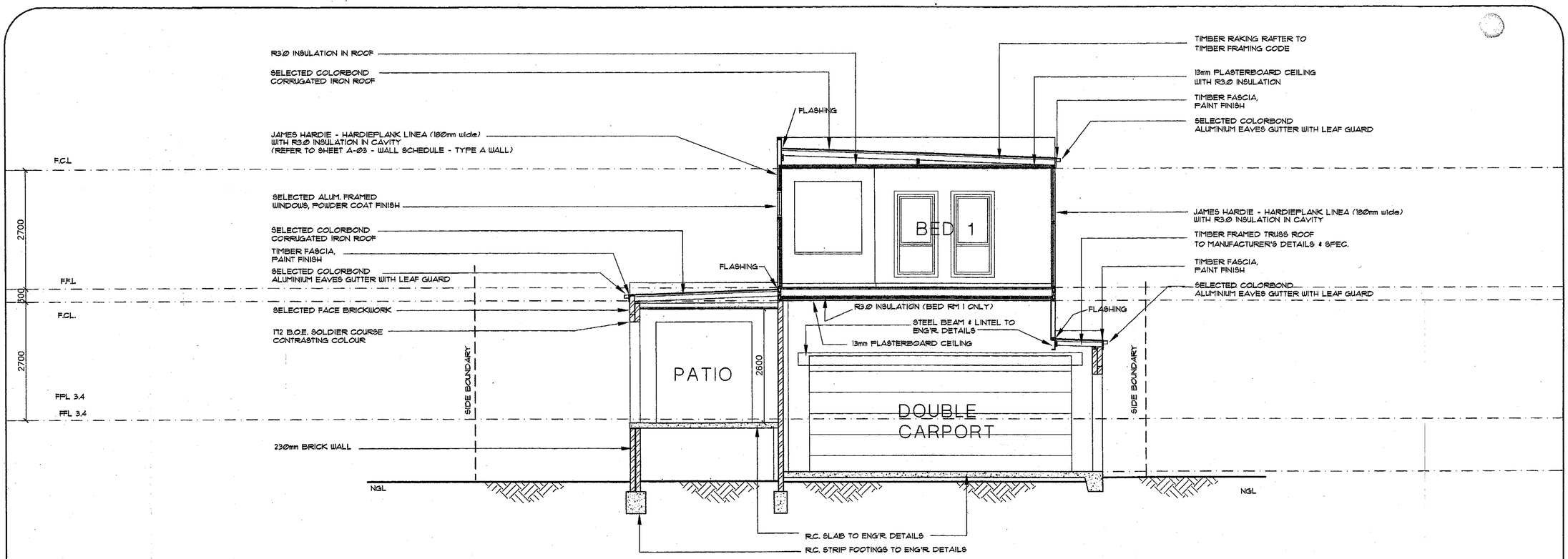
Address:
Lot 1, D.P. 17768, No. 107
Wimbledon Avenue
Narrabeen, NSW

Project:
Prop. New Residence

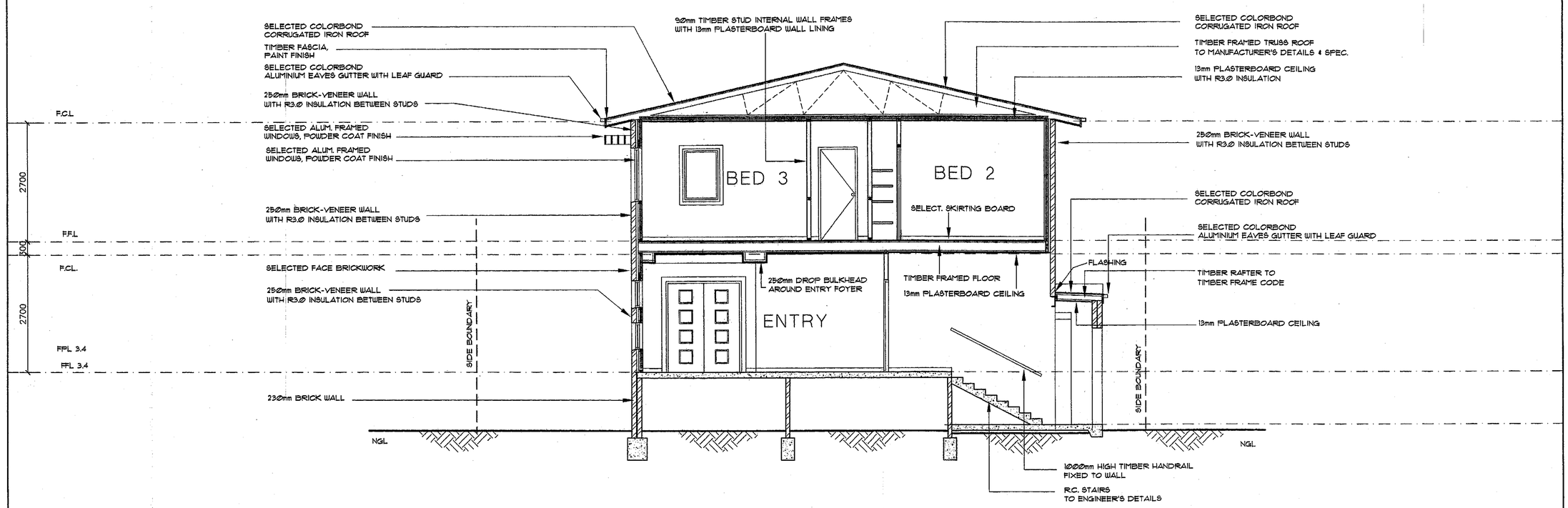
Title:
SECTIONAL DETAILS - 1.

Drawn	Date	Project No.
LR	19.10.05	5011
Checked	Scale	Draw. No. / Issue
	1:50	A-06 / A
Approved		

Sheet 06 of xx



SECTION E - E
1:50 SCALE



SECTION D - D
1:50 SCALE

- Contractor must verify all dimensions on site prior to commencement of any construction work or shop drawings.
- Only figured dimensions to be used. Do not scale off architectural drawings.
- Scaled dimensions must be verified.
- Copyright URBANform Designs Pty Ltd

Issue	Amendment	Initials	Date
A	Construction Issue	LR	xxxxxx

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SECTIONAL DETAILS - 1.

Drawn	Date	Project No.
LR	19.10.05	5011
Checked	Scale	
	1:50	
Approved	Drw. No.	Issue
	A-07	A

Sheet 07 of xx