INsight building certifiers pty ltd

Construction Certificate
Determination

issued under the Environmental
Planning and Assessment Act 1979
Section 109C (1) (b) 81A (2) and 81A (4)

Certificate No. 2009/3215

Council	**Pittwater**
Determination	**Approved**
date of issue	**19 March 2009**
Subject land	
Address	***22 Chiltern Road, Ingleside***
Lot No, DP No	**Lot 1 DP 598867**
Applicant	
Name	**Leahey Architects Pty Ltd**
Address	**99 Beattie Street Balmain NSW 2044**
Contact No	**9555 6866 0417 446893**
Owner	
Name	**Craig Perkins Investments Pty Ltd**
Address	**22 Chiltern Road Ingleside NSW 2101**
Contact No	-
Description of Development	
Type of Work	**Alterations & Additions to an Existing Dwelling including New Garage Swimming Pool Wastewater Management System & Landscape Works**
Builder or Owner/Builder	
Name	**Moulds Constructions Pty Ltd**
Contractor Licence No/Permit	**20748C**
Value of Work	
Building	**$3,618,885 00**

Attachments

- **Copy of completed Construction Certificate Application Form**
- **Pittwater Council receipt no 256299 for payment of Long Service Levy**

COUNCIL COPY

R 256811

20/3/09. $30.

Suite 13/90 Mona Vale Road Mona Vale NSW 2103 PO Box 326 Mona Vale NSW 1660 **ph 9999 0003** fax 9979 1555
email info@insightcert com au **web** www insightbuildingcertifiers com au **ABN** 54 115 090 456

Plans & Specifications certified

The development is to be carried out in compliance with the following plans and documentation listed below and endorsed with *Insight Building Certifiers* stamp

- Site Plan Architectural Plans BASIX Certification & Construction Specifications reference drawing no's 0707 22E & 0707 24E to 0707 31E prepared by Leahey Architects dated 12 February 2009
- Structural Engineers Plans & Details reference 1226 drawing no's S-00 to S-14 dated 25 February 2009 & Design Certifications dated 16 November 2008 & 2 March 2009 (Geotech) all prepared by Benvenuti S C Pty Ltd Structural Engineers
- Landscape Plans & Details reference 07/1297/CC1 sheets 1 to 13 (Issue E) prepared by Paul Scrivener Landscapes Architects dated 26 February 2009
- Stormwater Management Plans & Details (Four (4) Sheets) & design certification dated 6 March 2009 prepared by Martens & Associates Pty Ltd
- External finishes schedule reference 0707Colour_board dated 27 February 2009
- "Form 2" Geotechnical Risk Managements Policy completed & endorsed
- Waste water management plan & details Ref P0802138JD01_v3_Sheet 1 (REV 3) & design certification dated 24 September 2008 prepared by Martens Consulting Engineers
- AWTS NSW HEALTH Certificate of Accreditation dated 1 Dec 2005 & accompanying documentation collated by Leahey Architects dated 27 February 2009
- Exisiting structural adequacy certification Ref 1226descert dated 16 November 2008 prepared by Benvenuti S C Pty Ltd
- Erosion & Sediment Management Plan dated February 2009 prepared by Martens Consulting Engineers
- Construction Traffic Management Plan (CTMP) Ref 9001 prepared by Nick Fadeev dated 16 March 2009

Certificate

I hereby certify that the above Plans documents or Certificates satisfy

- The relevant provisions of the Building Code of Australia
- The relevant conditions of this Development Consent

and that work completed in accordance with the documentation accompanying the application for this Certificate (and any modifications as verified by me and shown on that documentation) will comply with the requirements of the Environmental Planning & Assessment Regulation referred to in Section 81A(5) of the Environmental Planning & Assessment Act 1979

Signed

Date of endorsement 19 MAR 2009
Certificate No **2009/3215**

Certifying Authority

Name of Accredited Certifier	Stephen Pinn
Accreditation No	BPB0326
Accreditation Authority	Building Professionals Board
Contact No	(02) 9999 0003
Address	13/90 Mona Vale Road Mona Vale NSW 2103

Development Consent

Development Application No	**N0373/08**
Date of Determination	**12 November 2008**

BCA Classification **1a, 10a & 10b**

Suite 13/90 Mona Vale Road Mona Vale NSW 2103 PO Box 326 Mona Vale NSW 1660 **ph 9999 0003** fax 99791555
email info@insightcert com au **ABN** 54 115 090 456

INSight building certifiers pty ltd

RECEIVED
27 FEB 2009
BY:

APPLICATION FOR A CONSTRUCTION CERTIFICATE

1. Applicant's details

It is important that we are able to contact you if we need more information. Please give us as much details as possible

Mr ☐ Mrs ☐ Ms ☐ Dr ☐ Other

Given Names (or ACN): 060 170 836

Family Name (or Company): Leahey Architects Pty Ltd

Postal Address (we will post all mail to this address)

99 Beattie St.

Balmain

Post Code: 2041

Daytime telephone: 9555 6P66

Alternate no.:

Mobile no.: 0417 44 6893

2. Owner's consent

Every owner of the land must sign this form. If the owner is a company the form must be signed by an authorized director and the common seal must be stamped on this form. If the property is a unit under the strata title or a lot in a community title, then in addition to the owner's signature, the common seal of the body corporate must be stamped on this form over the signature of the owner and signed by the Chairman or Secretary of the Body Corporate or the appointed managing agent.

Owner(s)

X ERIC PERKINS INVESTMENTS P/L

Address

22 Chiltern Rd

Ingleside NSW 2101

As owner(s) of the land to which this application relates, I/We consent to this application. I/We also consent for the Principal Certifying Authority and/or Accredited Certifier to enter the land to carry out inspections relating to this application.

Signature(s)

X

Without the owner's consent we will not accept the application. This is a very strict requirement for all applications. If you are signing on the owner's behalf as the owner's legal representative, you must state the nature of your legal authority and attach documentary evidence (eg, power of attorney, executor, trustee, company director, etc).

3. Location of property

Unit/Street no.: 22

Street name: Chiltern Rd

Suburb: Ingleside

Post code: 2101

Legal Property Description (these details are shown on your rate notices, property deeds, etc)

Lot no.: 1

DP no.: 598867

COUNCIL COPY

4. Description of work

What type of work do you propose to carry out?

Please describe briefly everything that you want approved.

Alterations + additions to ex dwelling
Erection of garage, swimming pool, lanai
+ associated site works + landscaping

5. Estimated cost of work

The estimated cost of the development or contract price may be subject to review

Estimated cost of work $ 3,618,885

6. Development Consent

Council Consent no. N 0373/08

Date of Determination 12 NOV 2008

7. Building Code of Australia classification

This can be found on the development consent

BCA Classification 1a, 10a & 10b

8. Builder's details

If known, to be completed in the case of residential building work

Name Moulds Construction

License no. 207480

Owner/builder permit no.

9. Applicant's declaration

I apply for a Construction Certificate to carry out building works as described in this application. I declare that all the information in this application and checklist is, to the best of my knowledge, true and correct.

Signature

Date 27/2/09

SUBMISSION REQUIREMENTS

A. GENERAL

Are the plans submitted with the Construction Certificate Application in accordance with the Development Consent?

Yes ☒ No ☐

Have all the conditions of Development Consent relating to the issue of the Construction Certificate been fully complied with?

Yes ☒ No ☐

If you have answered NO to either of the above questions, then you will need to speak with the Accredited Certifier BEFORE LODGING YOUR APPLICATION.

B. ALL PROPOSALS (has the following required information been submitted?)

Yes	No	Not Applicable	In the case of an application for a Construction Certificate for building work:
☒	☐	☐	Three (3) copies of detailed architectural plans and specifications
☒	☐	☐	The plan for the building must consist of a general plan drawn to a scale not less than 1:100 and a site plan drawn to a scale not less than 1.200. The general plan of the building is to: a) show a plan of each floor section b) show a plan of each elevation of the building c) show the levels of the lowest floor and of any yard or unbuilt on area belonging to that floor and the levels of the adjacent ground d) indicate the height, design, and full construction details e) indicate the provision for fire safety and fire resistance (if any)
☐	☐	☒	Where the proposed building work involves any alteration or addition to, or rebuilding of, an existing building, all copies of the general plan are to be coloured or otherwise marked to the satisfaction of the Council to adequately distinguish the proposed alteration, addition or rebuilding with a separate letter listing the proposed changes being submitted.
☒	☐	☐	3 copies of a specification: a) to describe the construction and materials of which the building is to be built and the method of drainage, sewerage and water supply b) state whether the materials proposed to be used are new or second hand and give particular
☐	☐	☒	Where the proposed building work involves a modification to previously approved plans and specifications the general plans must be coloured or otherwise marked to the satisfaction of the Accredited Certifier to adequately distinguish the modification.
☐	☐	☒	If the proposed building work involves a modification to previously approved plans and specification which were subject of a Development Consent, has the original Development Consent been modified by Council?
☐	☐	☒	Except in the case of an application for, or in respect of domestic building work: a) a list of any fire safety measures that are proposed to be implemented in the building or on the land on which the building is situated, and b) if the application relates to a proposal to carry out any alteration or rebuilding of, or addition to, an existing building, a separate list of such of those measures as are currently implemented in the building or on the land on which the building is situated. This list must specify the standard of design of each of those fire safety measures to which they were originally installed. c) This list must describe the extent, capability and basis of design of each of the measures concerned.
☒	☐	☐	Copy of BASIX Certificate & Report.
☒	☐	☐	All other documentation to satisfy conditions of Development Consent.

HOME BUILDING ACT 1989 (as amended) OWNER/BUILDER REQUIREMENTS

Applicants for work at a residential property with a value of work over $12,000 require insurance as specified in the Home Building Act 1989.

Owner Builders require Property Owner Builder's Permit issued by the Department of Fair Trading for all projects over $5,000. In addition to this permit all projects valued in excess of $12,000 may also require a contract of insurance under the provisions of the Home Building At 1989 as amended. This requirement will take effect should the property owner offer the property for sale in the ensuing period of 7 years.

Enquiries on any matters relevant to this section should be taken up with the Department of Fair Trading at Level 21, Astra House, 227 Elizabeth Street, Sydney (ph: 133220).

LONG SERVICE LEVY (applies to all classes of buildings)

A Long Service Levy at 0.35% of the cost of works is payable on projects valued $25,000 or more. This sum can be paid directly to the Long Service Payments Corporation or to Council acting as an agent to the Corporation. Partial exemption from the levy may be granted to non profit organizations, churches and to owner/builders. The levy may also be paid in instalments. Application forms for these exemptions are available from Council but all enquiries in this regard should be address to the Long Service Payments Corporation.

THE CONSTRUCTION CERTIFICATION CANNOT BE ISSUED UNLESS THE LONG SERVICE LEVY AND HOME BUILDING ACT 1989 INSURANCE (APPLICABLE TO RESIDENTIAL PROPERTIES) HAVE BEEN PAID, OR EVIDENCE OF THE EXEMPTION PROVIDED TO COUNCIL.

PARTICULARS OF THE PROPOSAL

What is the area of the land (m^2)? 20,200 m^2	Gross floor area of building (m^2) as proposed: 320.4 m^2
What are the current uses of all or parts of the building(s)/land? single residential	Location: Use:
Does the site contain a dual occupancy? No	What is the gross floor area of the proposed addition or new building (sq metres)? 235 m^2
What are the proposed uses of all parts of the building(s land? single residential	Number of pre-existing dwellings: 1
Number of dwellings to be demolished: none	How many dwellings proposed? 1
How many storeys will the building consist of? 2	Will the new building be attached to the existing building? No Will the new building be attached to any new building? No

MATERIALS TO BE USED

The following information must be supplied for the Australian Bureau of Statistics:

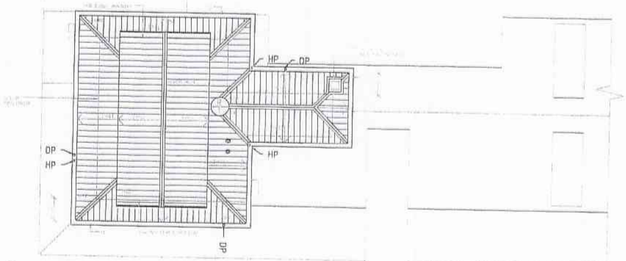
Place a tick (√) in the box which best describes the materials the new work will be constructed of:

WALLS		FLOOR		ROOF		FRAME	
Brick veneer	☒	Concrete	☒	Aluminium	☐	Timber	☒
Full brick	☐	Timber	☐	Concrete		Steel	☐
Single brick	☐	Other	☐	Concrete tile	☐	Other	☐
Concrete block	☐	Unknown	☐	Fibrous cement	☐	Unknown	☐
Concrete/masonry	☐			Fibreglass	☐		
Concrete	☐			Masonry/terracotta shingle	☐		
Steel	☐			Tiles	☐		
Fibrous cement	☒			Slate	☐		
Hardiplank	☐			Steel	☒		
Timber/weatherboard	☒			Terracotta tile	☐		
Cladding-aluminium	☐			Other	☐		
Curtain glass	☐			Unknown	☐		
Other	☐						
Unknown	☐						

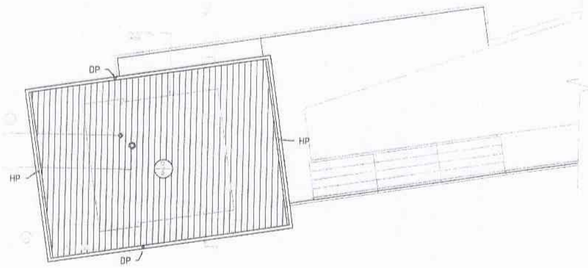
Suite 13/90 Mona Vale Road Mona Vale NSW 2103 PO Box 326 Mona Vale NSW 1660 **ph: 9999 0003** fax 9979 1555
Email: info@insightcert.com.au **ABN** 54 115 090 456

DESIGN IN ACCORDANCE WITH AS/NZS 3500.3:2003 FOR A 20 YEAR ARI 5 MINUTE STORM EVENT.

NOTE: DOWNPIPES FROM FIRST FLOOR ROOF REQUIRE SPREADERS



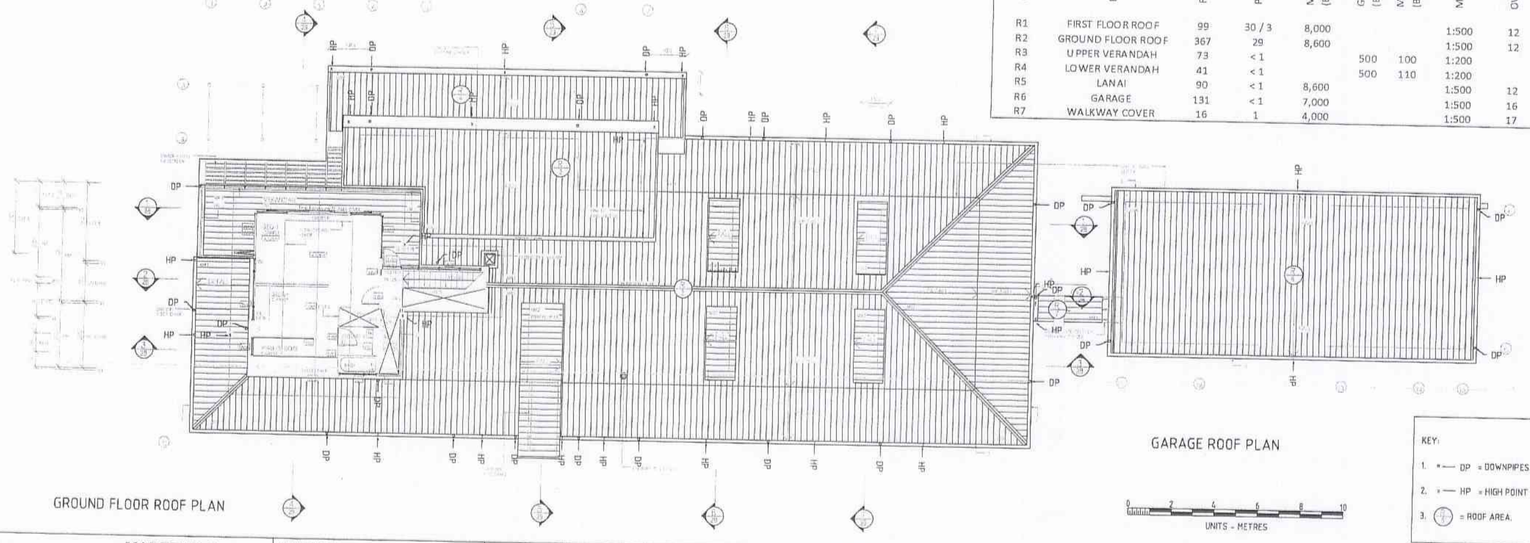
FIRST FLOOR ROOF PLAN



LANAI ROOF PLAN

SUMMARY OF ROOF STORMWATER DRAINAGE SYSTEM

ROOF AREA	ROOF DESCRIPTION	ROOF AREA (SQ.M)	PITCH (DEG.)	MIN. GUTTER SIZE (SQ.MM) (EAVES GUTTERS)	GUTTER WIDTH (MM) (BOX GUTTERS)	MIN. GUTTER DEPTH (MM) (BOX GUTTERS)	MIN. GRADIENT	OVERFLOW ALLOWANCE (MM)	NO. DOWNPIPES/ SUMPS	MIN. DOWNPIPE DIA. (MM)
R1	FIRST FLOOR ROOF	99	30 / 3	8,000			1:500	12	3	100
R2	GROUND FLOOR ROOF	367	29	8,600			1:500	12	13	100
R3	UPPER VERANDAH	73	< 1		500	100	1:200		2	90
R4	LOWER VERANDAH	41	< 1		500	110	1:200		2	125
R5	LANAI	90	< 1	8,600			1:500	12	2	100
R6	GARAGE	131	< 1	7,000			1:500	16	4	100
R7	WALKWAY COVER	16	1	4,000			1:500	17	1	75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PAVEMENT CONSTRUCTION NOTES

PAVEMENT CONSTRUCTION IS TO BE IN ACCORDANCE WITH AS 3727 (1993) GUIDE TO RESIDENTIAL PAVEMENTS.
SITE TESTING INDICATED CBR IS 5-10% FOR IN-SITU SOILS BELOW 150MM.
NEW PAVEMENTS TO BE CONSTRUCTED WHERE SHOWN IN ACCORDANCE WITH RECOMMENDED PAVEMENT DESIGN.
ASPHALT SURFACE OF EXISTING DRIVEWAY TO BE REPAIRED WHERE NECESSARY (E.G. WHERE CRACKING OR SUNKEN) AS PER TYPICAL FLEXIBLE PAVEMENT DRAWING.

SUBGRADE PREPARATION - ALL PAVEMENTS
ALL TOPSOIL AND UNSUITABLE MATERIAL (AS DEFINED BY AS 3798) IS TO BE REMOVED.
SUBGRADE SOIL/FILL SHOULD BE COMPACTED AT +/- 2% OF OMC TO ACHIEVE AN ACCEPTABLE PROOF ROLL WITH AN 8T STATIC ROLLER OR AS APPROVED BY DESIGN ENGINEER.
LOCAL SOFT SPOTS TO BE RECTIFIED TO ACHIEVE LEVELS OF STRENGTH AND STIFFNESS SIMILAR TO THE REMAINDER OF THE SUBGRADE.
BACKFILL FOR SERVICE TRENCHES SHOULD BE COMPACTED IN LAYERS TO PROVIDE LEVELS OF STRENGTH AND STIFFNESS SIMILAR TO THE SUBGRADE.

BASECOURSE
BASECOURSE TO BE COMPACTED TO A MINIMUM 95% DRY DENSITY RATIO AT +/- 2% OMC ACCORDING TO AS 1289.E2.1 (MODIFIED COMPACTIVE EFFORT).
BASECOURSE TO BE FINISHED TO WITHIN 0-10 MM OF DESIGN LEVELS
SURFACE OF THE PREPARED BASECOURSE SHOULD NOT DEVIATE BY MORE THAN 10 MM OVER A 3 M LENGTH OF THE DESIGN PROFILE.
IF A SUB-BASE LAYER IS REQUIRED, IT SHOULD BE COMPACTED TO THE SAME STANDARD.

CROSSFALLS
FINISHED PAVEMENT SURFACE CROSSFALLS FOR EXPOSED PAVEMENTS ARE 1 PERCENT MINIMUM AND 5 PERCENT MAXIMUM.

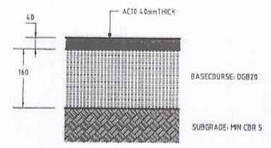
DRAINAGE
SUB-SURFACE DRAINS OF 10-20MM NO FINES GRANULAR MATERIAL AND SLOTTED OR PERVIOUS PIPES Ø 100MM REQUIRED ON PAVEMENT EDGES ADJOINING HIGHER UPSLOPE GROUND LEVELS (AS SHOWN).
FINISHED LEVEL OF ANY PAVEMENT ABUTTING A WALL MUST BE BELOW THE WALL DAMP-PROOFING COURSE AND MUST NOT OBSCURE ANY WEEP HOLES OR DRAINAGE OPENINGS.

UNSEALED ROADS
SUBGRADE TO BE PREPARED AS ABOVE.
PAVEMENT TO BE CONSTRUCTED OF 150 MM 3% CEMENT STABILISED DGB20 COMPACTED AT A MINIMUM 98% DRY DENSITY RATIO.

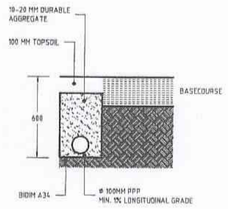
FOOTPATHS
SUBGRADE TO BE PREPARED AS ABOVE.
CONCRETE FOOTPATH PAVEMENTS TO BE CONSTRUCTED WITH THICKNESS OF 90MM WITH NO REINFORCING.
CONTROL JOINT SPACING TO BE 2 M.

PAVEMENT TOLERANCES
FINISHED PAVEMENTS LEVELS TO BE WITHIN 10MM OF DESIGN LEVEL.
FINISHED EDGE OF PAVEMENT NOT TO DEVIATE MORE THAN 10MM FROM 3M STRAIGHT EDGE OR DESIGN ALIGNMENT.
FINISHED PAVER SURFACE NOT TO DEVIATE MORE THAN 10MM FROM 3M STRAIGHT EDGE AND ADJACENT PAVERS NOT TO DEVIATE MORE THAN 2MM.

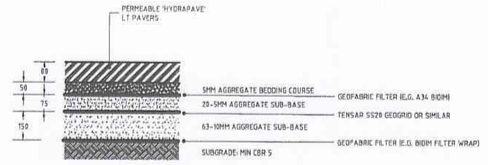
CONTROL JOINTS
JOINTS MAY BE CONSTRUCTED AS SAW CUTS, PRE-FABRICATED STEEL JOINT OR MASTIC JOINT.
SAW CUTS TO MIN. 5MM WIDE AND 30MM DEEP AND FILLED WITH EPOXY.
PRE-FABRICATED STEEL JOINTS OR MASTIC JOINTS TO BE CONSTRUCTED WITH 12MM SMOOTH STEEL BAR DOWELS, 400MM LONG AND SPACED AT 600MM CENTRES.



TYPE A: TYPICAL FLEXIBLE PAVEMENT
EXISTING DRIVEWAY
N.T.S.

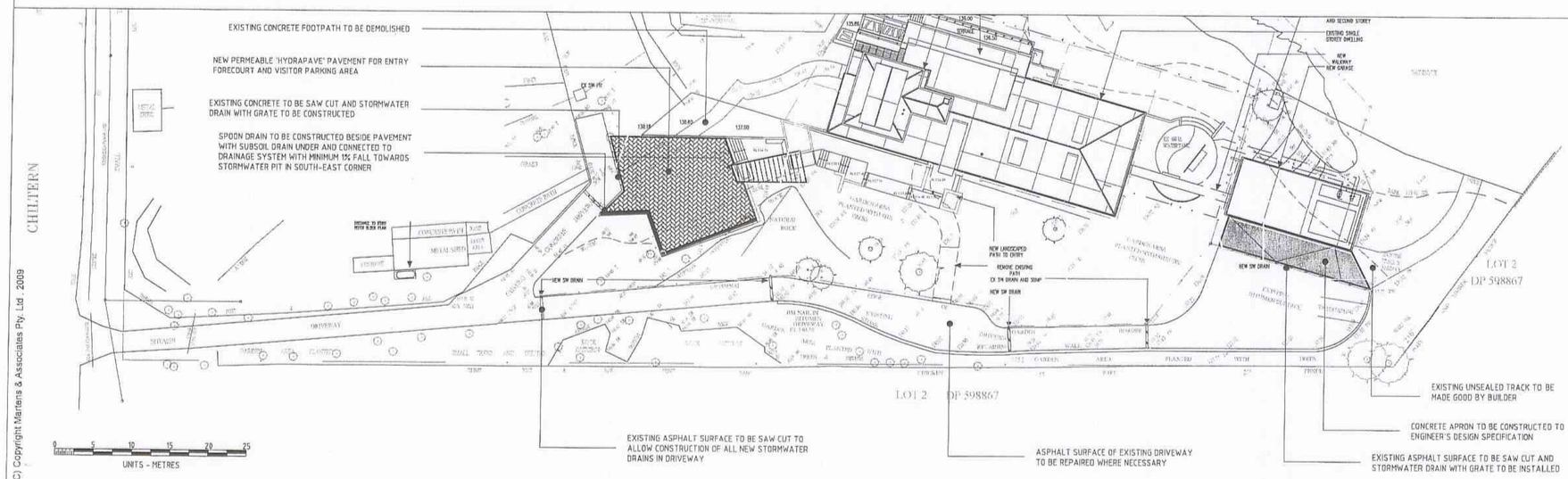


TYPICAL PAVEMENT
SUB-SOIL DRAIN
N.T.S.



TYPE B: PERMEABLE 'HYDRAPAVE' PAVEMENT
VISITOR PARKING AREA
N.T.S.

NOTES:
SPECIFIED BASE LAYER THICKNESSES ARE MINIMUM THICKNESS
BASE LAYER AGGREGATES ARE TO BE GAP GRADED WITH 35% VOIDS
'HYDRAPAVE' PAVERS ARE TO BE INSTALLED TO BORAL SPECIFICATIONS



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martens
Unit 6/ 37 Leighton Place
Hornsby, NSW 2077 Australia
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Email: mail@martens.com.au
Internet: http://www.martens.com.au

MARTENS & ASSOCIATES PTY LTD
Sustainable Solutions
Environmental - Geotechnical - Civil
Hydraulic - Wastewater Engineers

CLIENT/PROJECT	LEAHEY ARCHITECTS
TITLE	PAVEMENT DESIGN PLAN: 22 CHILTERN ROAD, INGLESIDE
THIS PLAN MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS APPROVED BY PRINCIPAL CERTIFYING AUTHORITY. All measurements in mm unless otherwise specified.	
PROJECT MANAGER:	MR ANDREW NORRIS
DRAWING NUMBER:	P0892138JD05_v3_SHEET 1
DESIGNED:	MBB
DRAWN:	MBB
REVIEWED:	AN
DATUM:	AHD
HORIZONTAL RATIO:	1:250 @ A1 1:500 @ A3
VERTICAL RATIO:	1:250 @ A1 1:500 @ A3
SHEET	1
OF	1 SHEETS
PAPER SIZE:	A1 / A3

REV.	DESCRIPTION	DATE	ISSUED
1	DRAFT	27.11.2008	MT
2	CC SUBMISSION	28.11.2008	MBB
3	AMENDED CC SUBMISSION	22.02.2009	MBB

martens
consulting engineers since 1989

Posted
Faxed ☐ 9555 6877
Emailed ☐ leaharch@bigpond.net.au
Courier
By Hand ☐
Contact: Andrew Norris
Our Ref: P0802138JC01_V1.doc
Pages: 1
cc.

RECEIVED
- 6 MAR 2009
BY:----------

March 6, 2009

Leahey Architects
Attn: Gary Leahey
P99 Beatie St
BALMAIN, NSW, 2041

Dear Gary,

RE: STORMWATER SYSTEM CERTIFICATION – 21 CHILTERN ROAD, INGLESIDE

The stormwater management solution for the above site has been prepared in accordance with the following:

- *Section 3.1.2 Drainage* of the Building Code of Australia Housing Provisions
- AS/NZS 3500.3.2 – Stormwater Drainage

The stormwater management plan is documented in the following:

1. Roof Stormwater Drainage Plan – P0802138JD02_V4 dated 26.02.09 by Martens & Associates Pty Ltd.
2. Site Stormwater Drainage Plan: 22 Chiltern Road, Ingleside – P0802139JD03_V2 dated 28/11/08 by Martens & Associates Pty Ltd.
3. Stormwater Details – P0802138JD06_V1 dated 28/11/08 by Martens & Associates Pty Ltd.

If you require any further information, please do not hesitate to contact Andrew Norris in our offices.

For and on behalf of

MARTENS & ASSOCIATES PTY LTD

DR DANIEL MARTENS
BSc(Hons1), MEngSc, PhD, MAWA, FIEAust, CPEng, NPER (2185379)
Manager, Principal Engineer

COUNCIL COPY

Head Office
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Hornsby NSW 2077, Australia
Ph 02 9476 9999 **Fax** 02 9476 8767

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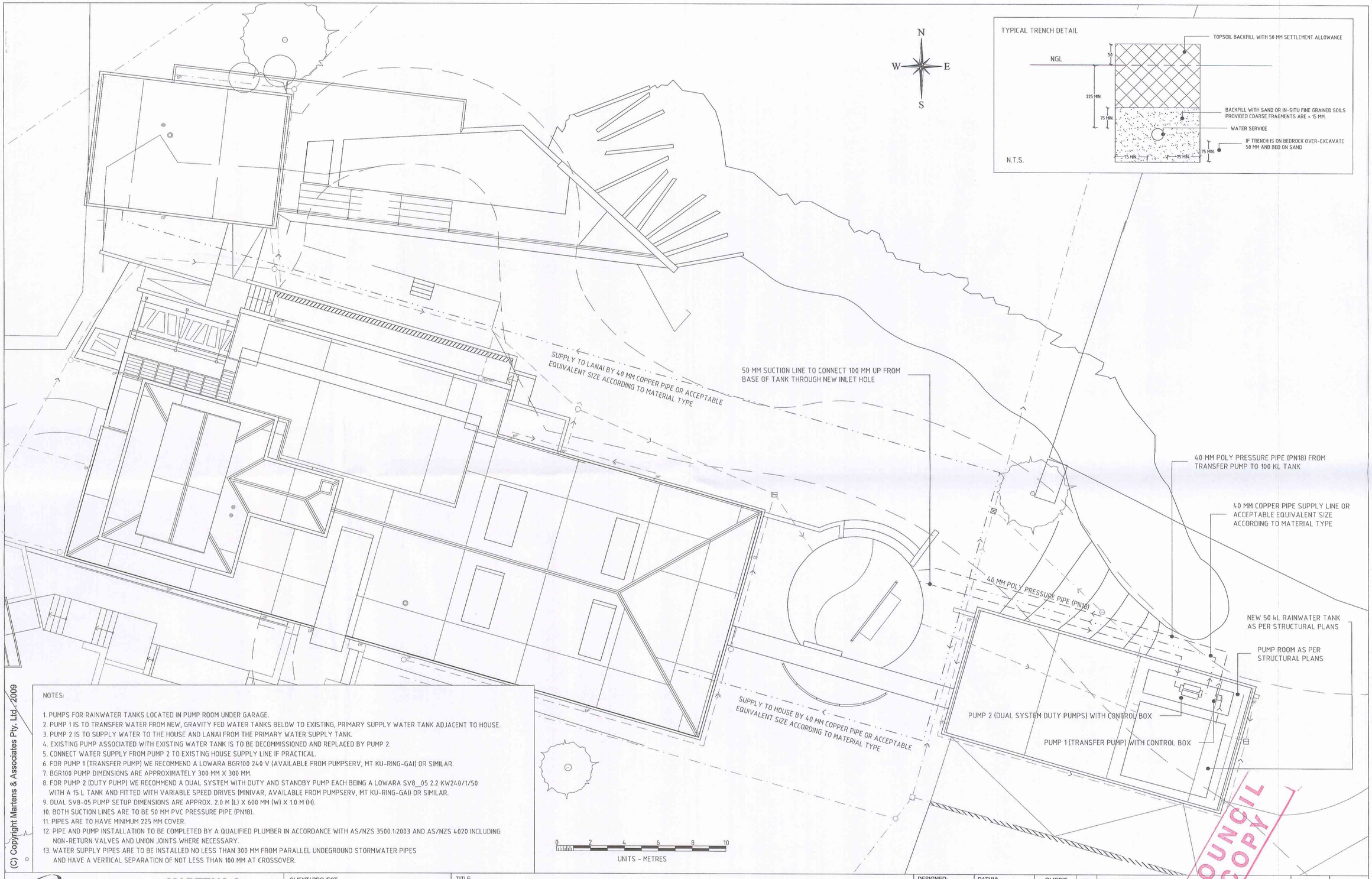
www.martens.com.au
MARTENS & ASSOCIATES P/L
ABN 85 070 240 890 ACN 070 240 890



NOTES:

1. PUMPS FOR RAINWATER TANKS LOCATED IN PUMP ROOM UNDER GARAGE.
2. PUMP 1 IS TO TRANSFER WATER FROM NEW, GRAVITY FED WATER TANKS BELOW TO EXISTING, PRIMARY SUPPLY WATER TANK ADJACENT TO HOUSE.
3. PUMP 2 IS TO SUPPLY WATER TO THE HOUSE AND LANAI FROM THE PRIMARY WATER SUPPLY TANK.
4. EXISTING PUMP ASSOCIATED WITH EXISTING WATER TANK IS TO BE DECOMMISSIONED AND REPLACED BY PUMP 2.
5. CONNECT WATER SUPPLY FROM PUMP 2 TO EXISTING HOUSE SUPPLY LINE IF PRACTICAL.
6. FOR PUMP 1 (TRANSFER PUMP) WE RECOMMEND A LOWARA BGR100 240 V (AVAILABLE FROM PUMPSERV, MT KU-RING-GAI) OR SIMILAR.
7. BGR100 PUMP DIMENSIONS ARE APPROXIMATELY 300 MM X 300 MM.
8. FOR PUMP 2 (DUTY PUMP) WE RECOMMEND A DUAL SYSTEM WITH DUTY AND STANDBY PUMP EACH BEING A LOWARA SV8__05 2.2 KW240/1/50 WITH A 15 L TANK AND FITTED WITH VARIABLE SPEED DRIVES (MINIVAR, AVAILABLE FROM PUMPSERV, MT KU-RING-GAI) OR SIMILAR.
9. DUAL SV8-05 PUMP SETUP DIMENSIONS ARE APPROX. 2.0 M (L) X 600 MM (W) X 1.0 M (H).
10. BOTH SUCTION LINES ARE TO BE 50 MM PVC PRESSURE PIPE (PN18).
11. PIPES ARE TO HAVE MINIMUM 225 MM COVER.
12. PIPE AND PUMP INSTALLATION TO BE COMPLETED BY A QUALIFIED PLUMBER IN ACCORDANCE WITH AS/NZS 3500.1:2003 AND AS/NZS 4020 INCLUDING NON-RETURN VALVES AND UNION JOINTS WHERE NECESSARY.
13. WATER SUPPLY PIPES ARE TO BE INSTALLED NO LESS THAN 300 MM FROM PARALLEL UNDEGROUND STORMWATER PIPES AND HAVE A VERTICAL SEPARATION OF NOT LESS THAN 100 MM AT CROSSOVER.

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martens
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Email: mail@martens.com.au
Internet: http://www.martens.com.au

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Sustainable Solutions
Environmental - Geotechnical - Civil
Hydraulic - Wastewater Engineers

CLIENT/ PROJECT: LEAHEY ARCHITECTS

TITLE: RAINWATER RETICULATION PLAN: 22 CHILTERN ROAD, INGLESIDE

THIS PLAN MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS APPROVED BY PRINCIPAL CERTIFYING AUTHORITY
All measurements in mm unless otherwise specified.

PROJECT MANAGER: MR ANDREW NORRIS

DRAWING NUMBER: P080213BJD07_v1_SHEET 1

DESIGNED:	MT/MBB
DRAWN:	MT/MBB
REVIEWED:	DM
DATUM:	AHD
HORIZONTAL RATIO:	1:100 @ A1 1:200 @ A3
VERTICAL RATIO:	1:100 @ A1 1:200 @ A3
SHEET	1
OF	1 SHEETS
PAPER SIZE:	A1 / A3

REV.	DESCRIPTION	DATE	ISSUED
1.0	CC SUBMISSION	24.11.2008	MT
2.0	REVISED CC	23.02.2009	MBB

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NOTES:

1. DESIGN IN ACCORDANCE WITH AS/NZS 3500.3:2003, PITTWATER 21 DCP AND THE SITE PRELIMINARY STORMWATER MANAGEMENT ASSESSMENT (MARTENS & ASSOC. REPORT P0802138JR01_V1, JULY 2008).
2. ACCORDINGLY, THE SURFACE DRAINAGE SYSTEM IS DESIGNED FOR A 20 YEAR ARI 5 MINUTE STORM EVENT.
3. ALL DOWNPIPES TO BE CONNECTED TO EXISTING STORMWATER DRAINAGE NETWORK WHERE POSSIBLE - BUILDER TO CHECK CONDITION OF EXISTING PIPES IS SUITABLE, THAT ALL EXISTING SECTIONS CONNECT TO THE RAINWATER TANK, AND THAT A FIRST-FLUSH FILTER DEVICE IS FITTED PRIOR TO THE RAINWATER TANK.
4. INSTALLATION TO BE COMPLETED BY A QUALIFIED PLUMBER IN ACCORDANCE WITH AS/NZS 3500.3:2003.
5. NEW RAINWATER TANKS TO BE INSTALLED WITH REGARD TO THE SITE GEOTECHNICAL ASSESSMENT (MARTENS & ASSOC. REPORT P0802138JR01_V1, JULY 2008).
6. ALL STORMWATER PIPE TO MAINTAIN MINIMUM 100 MM COVER THROUGHOUT.
7. OFF-SITE CATCHMENT AREA UPSLOPE (SOUTH) OF DRIVEWAY ESTIMATED TO BE 650 SQ.M.
8. OVERLAND FLOW PATHS INDICATE ROUTE FOR 100 YEAR ARI STORMS.

GENERAL OVERLAND FLOW DIRECTION FOR LARGE (OVER PIPED DESIGN) STORM EVENTS

SURFACE STORMWATER PIPE - 225 MM PVC UNLESS OTHERWISE NOTED

ROOF STORMWATER PIPE - 225 MM PVC UNLESS OTHERWISE NOTED

INSPECTION OPENING

STORMWATER PIT - 300 X 300 X 300 MM UNLESS OTHERWISE NOTED

N

W E

S

LOT 2 DP 595804

LOT 1 DP 598867

LOT 2 DP 598867

CONC. SLAB UNDER NORTHERN DECK AREA TO FALL 1% TOWARDS NORTH AND DRAIN OFF EDGE WITH GRAVEL BED ALONG DRIP LINE TO PREVENT SCOUR

PICKUP S/W DRAIN ALONG SOUTH SIDE OF DECK AREA

S/W DRAIN FOR TERRACE DRAINS TO WEST END W/ MIN. 1% FALL (DRAIN DEPTH TO VARY 150 - 300 MM)

225 MM DIA. PVC S/W PIPE APPROX. 10% FALL (MIN.) CLASH MANHOLE MIN. 100 MM COVER

EXIST. 448 MM DIA. CONC. S/W PIPE

PIPED CONNECTION TO BE ESTABLISHED BETWEEN EXISTING 300 MM DIA. CONC. S/W PIPE AND 1.2 M x 1.2 M S/W PIT

PICKUP S/W DRAIN ALONG FRONT

PROPRIETRY FIRST FLUSH DIVERTER/ LEAF SCREEN INSTALLED TO MANUF'S SPEC.

ONE-WAY FLAP-VALVE W/ LO ON OVERFLOW PIPE

NEW 50 KL RAINWATER TANK UNDER GARAGE APPROX. INTERNAL DIMENSIONS 4.5 x 5.2M BASE LEVEL OF TANK 132.60 INLET AND OVERFLOW PIPE I.L. 135.00

PROPRIETRY FIRST FLUSH DIVERTER/ LEAF SCREEN INSTALLED TO MANUFACTURER'S SPEC.

300 x 300 x 200 (D) mm PIT

NEW 150 MM (W) x 100-150 MM (D) RECTANGULAR DRAIN W/ GRATE COVER ACROSS DRIVEWAY TO DRAIN TO NEW PIT AT NORTHERN END W/ MIN. 1% FALL

NEW VISITOR PARKING AREA AND SURROUNDING SPOON DRAIN TO BE GRADED TO DRAIN TO PIT IN S/W CORNER

450 x 450 x 300 (D) mm PIT

NEW 150 MM (W) x 100-150 MM (D) RECTANGULAR DRAIN W/ GRATE COVER ACROSS DRIVEWAY TO DRAIN TO NEW PIT ON NORTHERN SIDE W/ MIN. 1% FALL

CONCRETE SWALE ALONG NORTHERN EDGE OF DRIVEWAY 500 MM (W) x 100 MM (D)

EXISTING DRAIN ACROSS DRIVEWAY TO BE REPAIRED AND DRAINED TO NEW PIT ON NORTHERN SIDE

NEW 150 MM (W) x 100-150 MM (D) RECTANGULAR DRAIN W/ GRATE COVER ACROSS DRIVEWAY TO DRAIN TO NEW PIT ON WESTERN SIDE W/ MIN. 1% FALL

0 5 10 15 20 25

UNITS - METRES

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MARTENS & ASSOCIATES PTY LTD
Sustainable Solutions
Environmental - Geotechnical - Civil
Hydraulic - Wastewater Engineers

CLIENT/ PROJECT: LEAHEY ARCHITECTS

TITLE: SITE STORMWATER DRAINAGE PLAN: 22 CHILTERN ROAD, INGLESIDE

THIS PLAN MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS APPROVED BY PRINCIPAL CERTIFYING AUTHORITY
All measurements in mm unless otherwise specified.

PROJECT MANAGER: MR ANDREW NORRIS

DRAWING NUMBER: P0802138JD03_v4__SHEET 1

DESIGNED:	MT/MBB
DRAWN:	MT/MBB
REVIEWED:	AN
DATUM:	AHD
HORIZONTAL RATIO:	1:250 @ A1 1:500 @ A3
VERTICAL RATIO:	1:250 @ A1 1:500 @ A3
SHEET	1 OF 1 SHEETS
PAPER SIZE:	A1 / A3

REV.	DESCRIPTION	DATE	ISSUED
1.0	CC SUBMISSION	28.11.2008	MT
2.0	REVISED CC	23.02.2009	MBB

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Posted		
Faxed		
Emailed	X	Amy.Allen@pittwater.nsw.gov.au
Courier		
By Hand		
Contact:		Mr. Mark Terei
Our Ref:		P0802138JR02_v1
Pages:		Three text + one plan
cc.		Leahey Architects.

Wednesday, 24 September 2008

RECEIVED
25 SEP 2008

Amy Allen
Pittwater Council
By email

Dear Amy,

RE: ON-SITE SWIMMING POOL WASTEWATER MANAGEMENT: 22 CHILTERN ROAD, INGELSIDE.

This brief report provides revised design details for an appropriate on-site swimming pool wastewater management system at the above site. The design is based on an assessment of site capability completed in July 2008 as part of a broader Geotechnical, Wastewater and Stormwater Assessment for the site (Martens & Associates report P0802138JR01_v1). That report includes a detailed site description and assessment of features limiting on-site wastewater management, and concluded that the site is suitable for on-site wastewater management. However, we understand that Pittwater Council cannot support the swimming pool wastewaters being disposed of into the site dam. This report provides an alternative solution for pool wastewater management and replaces the July 2008 proposal.

Swimming Pool Details

A new swimming pool is proposed to be built as part of the current development proposal. The new pool is to be situated on the northern side of the dwelling, as shown on the site plan (Attachment A). It is planned to have a surface area of approximately 60 m^2.

Wastewater Management System

The most suitable swimming pool wastewater management system for the site is an on-site spray irrigation system. The system would involve pool wastewater being directed to a collection tank prior to being applied by spray irrigation to a dedicated area.

Excess pool water generated by rainfall events shall be automatically directed to the collection tank via an overflow pipe situated above the waterline at the skimmer box. Filter back-flush water shall also be piped to the collection tank.

A submersible irrigation pump (with attached float switch) should be located on the bottom of the collection well. The irrigation pump should be operated on a timer basis, with irrigation occurring for approximately 4 minutes twice a day at a flow rate of 1 L/s when required. This shall achieve a maximum daily irrigation rate of 500 L. Timer operation will need to be confirmed once final filter back-flush volumes and pool wastewater irrigation pump specifications have been determined.

A high water float switch should be installed near the top of the collection tank to force irrigation and avoid tank overflow.

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ABN 85 070 240 890 ACN 070 240 890

Design Wastewater Load

Based on discussions with several pool filter manufacturers, larger pool filters, such as that expected to be used with the proposed swimming pool, may require back-flushing approximately every five weeks with a total of approximately 500 litres generated per back-flush.

The volume of excess pool water generated by rainfall events is a function of the rainfall event. Assuming a design rainfall event of 50 mm/day and a pool surface area of 60 m², a design peak daily excess pool water volume of approximately 3.0 kL (50 mm x 60 m²) is determined.

A collection tank is required to temporarily store pool wastewater, prior to it being irrigated on-site. We recommend a minimum 3.5 kL collection tank be used to receive the estimated 3.0 kL of excess pool water generated by a design rainfall event as well as one load of filter back-flush wastewater.

Irrigation Rate and Disposal Area

The size of the required irrigation area is based on a rate of 1% of the site soil's saturated hydraulic conductivity (K_{sat}). This application rate recognises the site's shallow bedrock and restricted drainage, as well as the relatively clean nature of pool wastewater. A conservative estimate of K_{sat} for the site's loam topsoils is 1.5 m/day (AS/NZS 1547, 2000). Thus, a maximum pool wastewater irrigation rate of 15 mm/day is considered to be appropriate for the site. Assuming disposal of maximum 500 L of pool wastewater in a day is undertaken, an irrigation area of 35 m² is required. A representative area is shown on the site plan (Attachment A).

Irrigation Type

Pool wastewater is of relatively high quality but can contain some solids which could block sub-surface irrigation lines. Therefore, spray irrigation on-site is recommended. Irrigation should not occur on or immediately upslope of areas being irrigated with domestic wastewater (treated effluent). An area near the eastern property boundary is proposed to be utilised.

Specific System Requirements

Requirements for the pool wastewater disposal system, in addition to those stated above, are as follows:

- Back-flush operations should be avoided during times when the collection tank is holding large volumes of excess pool water following rainfall events.
- The location of the minimum 3.5 kL collection tank is flexible, although the applicant has indicated a desire to situate it in the plant room under the lanai where adequate clearance is expected to be available. We consider this location to be acceptable, provided that access for maintenance purposes is not restricted.
- The collection tank may be of concrete or poly construction.
- Sprinklers must distribute the wastewater evenly within the designated irrigation area and be arranged so that the risk of any water drifting beyond the designated area is negligible.
- Sprinklers must have a maximum throw of 2 metres and the plume must be no greater than 400 mm above finished ground level.

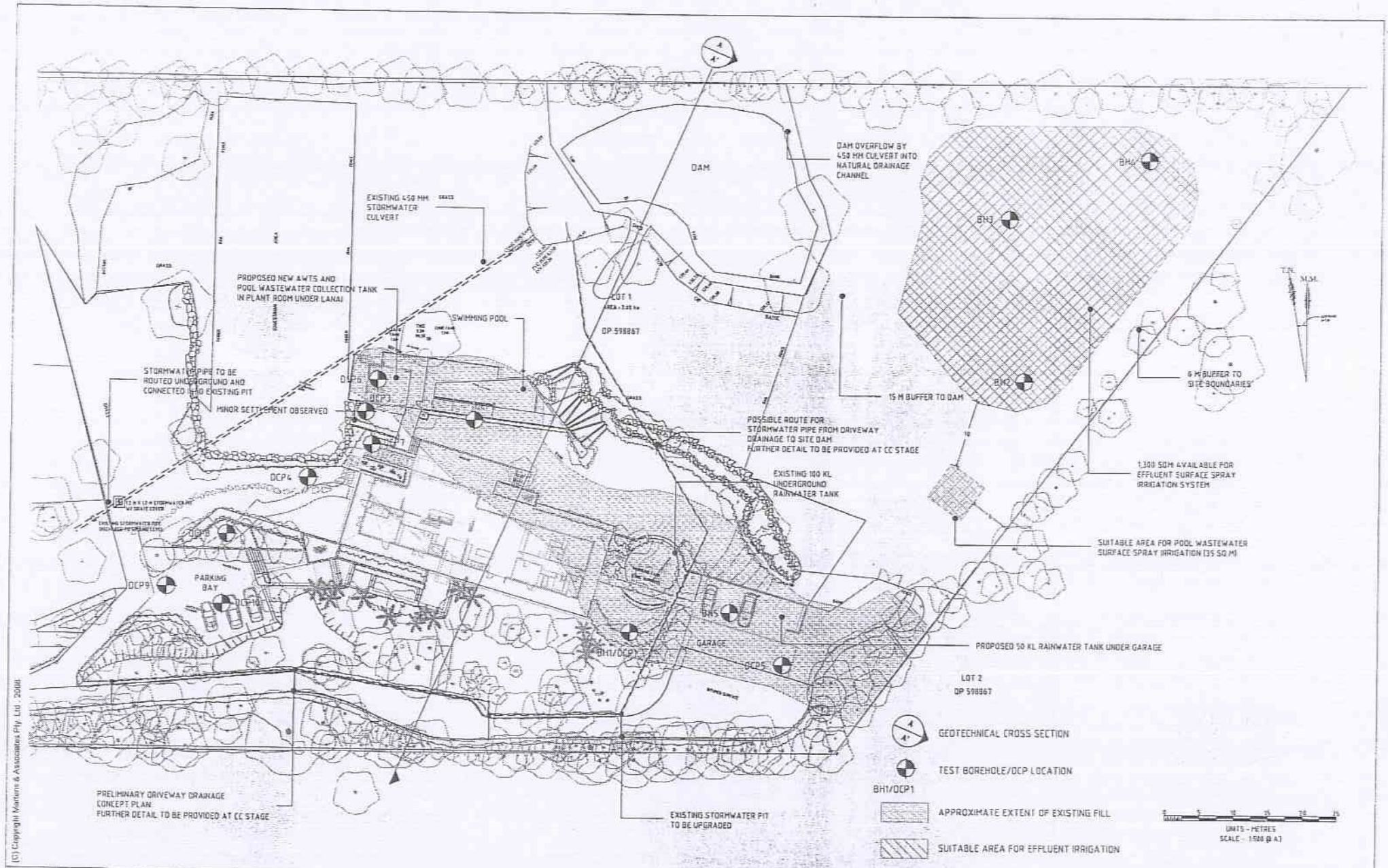
For and on behalf of

MARTENS & ASSOCIATES PTY LTD

MARK TEREI
BEnvMgt
Environmental Scientist

Attachments:

A. Site plan.



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CLIENT/ PROJECT
CRAIG PERKINS
22 CHILTERN ROAD, INGLESIDE

THIS PLAN MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS APPROVED BY PRINCIPAL CERTIFYING AUTHORITY
All measurements in millimetres unless otherwise specified.

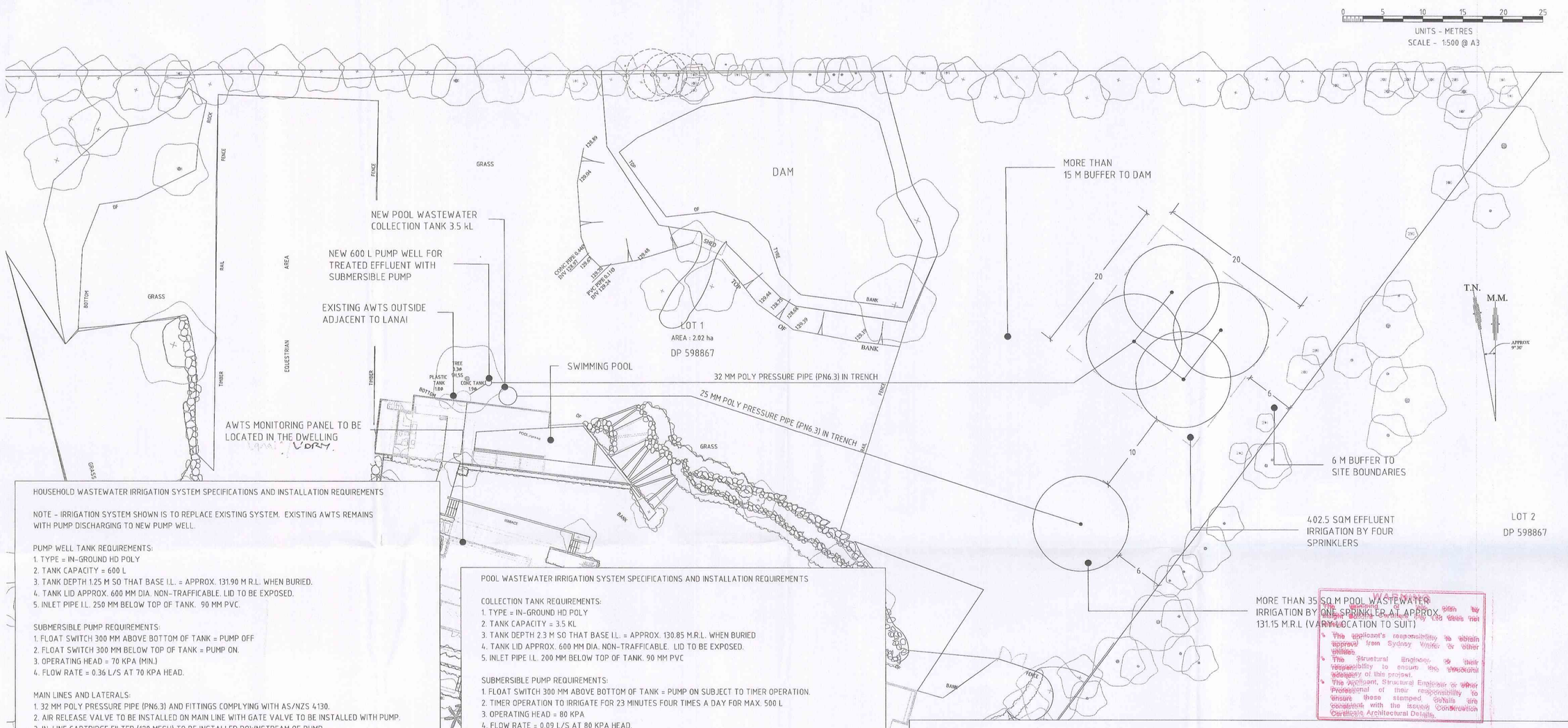
TITLE
SITE LAYOUT PLAN
SWIMMING POOL WASTEWATER ASSESSMENT

PROJECT MANAGER:
Dr DANIEL MARTENS

DRAWING NUMBER:
P0802383001_v2

DESIGNED: MAT	DATUM: M AHD	SHEET 1 OF 1 SHEETS	
DRAWN: MAT	HORIZONTAL RATIO: 1:500 @ A1		
REVISED: MBB	VERTICAL RATIO: 1:500 @ A1	PAPER SIZE: A1	

REV.	DESCRIPTION	DATE	ISSUED
1.0	ATTACHMENT A: REPORT P0802383001_V1	31.08.2008	MAT
2.0	ATTACHMENT A: REPORT P0802383001_V1	24.09.2008	MAT



HOUSEHOLD WASTEWATER IRRIGATION SYSTEM SPECIFICATIONS AND INSTALLATION REQUIREMENTS

NOTE - IRRIGATION SYSTEM SHOWN IS TO REPLACE EXISTING SYSTEM. EXISTING AWTS REMAINS WITH PUMP DISCHARGING TO NEW PUMP WELL.

PUMP WELL TANK REQUIREMENTS:
1. TYPE = IN-GROUND HD POLY
2. TANK CAPACITY = 600 L
3. TANK DEPTH 1.25 M SO THAT BASE I.L. = APPROX. 131.90 M R.L. WHEN BURIED.
4. TANK LID APPROX. 600 MM DIA. NON-TRAFFICABLE. LID TO BE EXPOSED.
5. INLET PIPE I.L. 250 MM BELOW TOP OF TANK. 90 MM PVC.

SUBMERSIBLE PUMP REQUIREMENTS:
1. FLOAT SWITCH 300 MM ABOVE BOTTOM OF TANK = PUMP OFF
2. FLOAT SWITCH 300 MM BELOW TOP OF TANK = PUMP ON.
3. OPERATING HEAD = 70 KPA (MIN.)
4. FLOW RATE = 0.36 L/S AT 70 KPA HEAD.

MAIN LINES AND LATERALS:
1. 32 MM POLY PRESSURE PIPE (PN6.3) AND FITTINGS COMPLYING WITH AS/NZS 4130.
2. AIR RELEASE VALVE TO BE INSTALLED ON MAIN LINE WITH GATE VALVE TO BE INSTALLED WITH PUMP.
3. IN-LINE CARTRIDGE FILTER (120 MESH) TO BE INSTALLED DOWNSTREAM OF PUMP.
4. LATERALS TO BE LAID OUT GENERALLY AS SHOWN. MINIMUM COVER 150 MM.
5. LATERALS TO CONNECT AND SUPPLY FOUR SPRINKLERS.

SPRINKLERS:
1. TYPE = RIGID ON RISERS AT 0.5 M HEIGHT ABOVE GROUND LEVEL. FULL CIRCLE OPERATION. NOZZLE TO BE SELECTED FOR COARSE DROPLETS (EXAMPLE: 3.18 MM WOBBLER NOZZLE)
2. TOTAL NUMBER REQUIRED = 4 ALL OPERATING AT THE SAME TIME
3. PRESSURE = 75 KPA.
4. FLOW RATE = 0.09 L/S/SPRINKLER
5. THROW RADIUS = 6.0 M
6. SPRINKLERS TO BE INSTALLED AT LOCATIONS GENERALLY AS SHOWN WITH MINIMUM BUFFER OF 15 M FROM SITE DAM, 10 M FROM POOL WASTEWATER IRRIGATION AND 6 M FROM PROPERTY BOUNDARIES.

INSTALLATION:
1. INSTALLATION BY QUALIFIED PLUMBER OR IRRIGATION SPECIALIST IN ACCORDANCE WITH AS/NZS 1547:2000.
2. MAIN AND LATERALS TO BE LAID MINIMUM 150 MM BELOW GROUND SURFACE.
3. FENCING TO SURROUND IRRIGATION FIELD WITH SIGNAGE INDICATING USE OF RECALIMED EFFLUENT TO BE INSTALLED ON PERIMETER OF IRRIGATION AREA IN ACCORDANCE WITH AS/NZS 1547 (2000).

MAINTENANCE:
1. CARTRTIDGE FILTER ON OUTLET TO BE CHECKED AND CLEANED REGULARLY.
2. AWTS MAINTENANCE IN ACCORDANCE WITH DA APPROVAL, NSW HEALTH REQUIREMENTS, AND MANUFACTURER'S RECOMMENDATIONS.

POOL WASTEWATER IRRIGATION SYSTEM SPECIFICATIONS AND INSTALLATION REQUIREMENTS

COLLECTION TANK REQUIREMENTS:
1. TYPE = IN-GROUND HD POLY
2. TANK CAPACITY = 3.5 KL
3. TANK DEPTH 2.3 M SO THAT BASE I.L. = APPROX. 130.85 M.R.L. WHEN BURIED
4. TANK LID APPROX. 600 MM DIA. NON-TRAFFICABLE. LID TO BE EXPOSED.
5. INLET PIPE I.L. 200 MM BELOW TOP OF TANK. 90 MM PVC

SUBMERSIBLE PUMP REQUIREMENTS:
1. FLOAT SWITCH 300 MM ABOVE BOTTOM OF TANK = PUMP ON SUBJECT TO TIMER OPERATION.
2. TIMER OPERATION TO IRRIGATE FOR 23 MINUTES FOUR TIMES A DAY FOR MAX. 500 L
3. OPERATING HEAD = 80 KPA
4. FLOW RATE = 0.09 L/S AT 80 KPA HEAD.

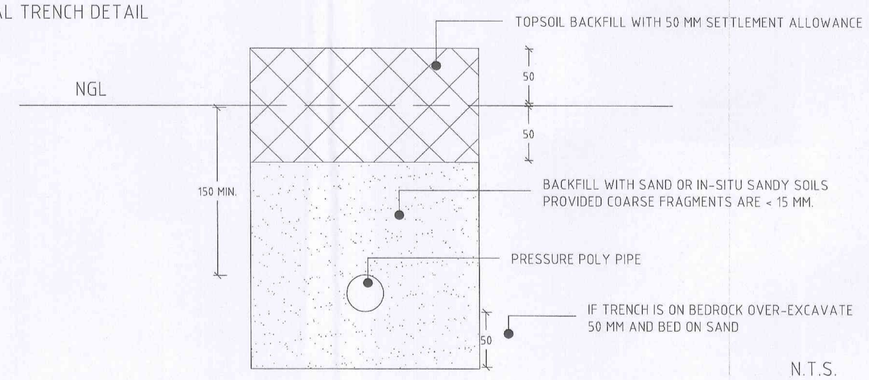
MAIN LINES AND LATERALS:
1. 25 MM POLY PRESSURE PIPE (PN6.3) AND FITTINGS COMPLYING WITH AS/NZS 4130.
2. GATE VALVE TO BE INSTALLED WITH PUMP.
3. IN-LINE CARTRIDGE FILTER (120 MESH) TO BE INSTALLED DOWNSTREAM OF PUMP.

SPRINKLER:
1. TYPE = RIGID ON RISER AT 0.5 M HEIGHT ABOVE GROUND LEVEL. FULL CIRCLE OPERATION. NOZZLE TO BE SELECTED FOR COARSE DROPLETS (EXAMPLE: 3.18 MM WOBBLER NOZZLE)
2. TOTAL NUMBER REQUIRED = 1
3. PRESSURE = 75 KPA.
4. FLOW RATE = 0.09 L/S/SPRINKLER
5. THROW RADIUS = 6.0 M
6. SPRINKLER TO BE INSTALLED AT LOCATION GENERALLY AS SHOWN WITH MINIMUM BUFFER OF 15 M FROM SITE DAM, 10 M FROM EFFLUENT IRRIGATION AND 6 M FROM PROPERTY BOUNDARIES.

INSTALLATION:
1. INSTALLATION BY QUALIFIED PLUMBER OR IRRIGATION SPECIALIST IN ACCORDANCE WITH AS/NZS 1547:2000.
2. MAIN TO BE LAID MINIMUM 150 MM BELOW GROUND SURFACE.

MAINTENANCE:
1. CARTRTIDGE FILTER ON OUTLET TO BE CHECKED AND CLEANED REGULARLY.

TYPICAL TRENCH DETAIL



N.T.S.

WARNING
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- The applicant's responsibility to obtain approval from Sydney Water or other utilities.
- The Structural Engineer or their responsibility to ensure the structural adequacy of the project.
- The Applicant, Structural Engineer or other Professional of their responsibility to ensure these stamped details are consistent with the issued Construction Certificate Architectural Details.

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CLIENT/ PROJECT
LEAHEY ARCHITECTS
22 CHILTERN ROAD, INGLESIDE

THIS PLAN MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS APPROVED BY PRINCIPAL CERTIFYING AUTHORITY
All measurements in m unless otherwise specified.

TITLE
SITE LAYOUT PLAN
WASTEWATER IRRIGATION

PROJECT MANAGER: DR DANIEL MARTENS
DRAWING NUMBER: P0802138JD01_v3_SHEET 1

DESIGNED: MT	DATUM: M AHD	SHEET 1 OF 1 SHEETS	
DRAWN: MT	HORIZONTAL RATIO: 1:250 @ A1, 1:500 @ A3		
REVIEWED: AN	VERTICAL RATIO: 1:250 @ A1, 1:500 @ A3	PAPER SIZE: A1/A3	

REV.	DESCRIPTION	DATE	ISSUED
1.0	ATTACHMENT A: REPORT P0802138JR01_V1	01.08.2008	MAT
2.0	ATTACHMENT A: REPORT P0802138JR02_V1	24.09.2008	MAT
3.0	CC DETAIL	24.11.2008	MAT

BASIX COMPLIANCE STATEMENT

22 Lot 1 598867.

CHILTERN ROAD INGLESIDE.

Alterations & additions to existing dwelling

Proj. No's 0707-22L & 0707.24L to .31L Read in GARY LEAHEY ARCHITECTS

A39566 8 Aug. 2008.

Gary Leahey 16.3.9

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Notes

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Larger scale drawings and written dimensions take preference.
Do not scale from drawing.
All dimensions must be checked on site before work commences.
All discrepancies are to be brought to the attention of the author.

TREES ALONG FENCE APPROX LOT 2 DP 595804

FENCE WIRE MESH

TIMBER RAIL FENCE

ROCK TOP OF NATURAL BOTTOM OF

GRASS

TIMBER POST & RAIL FENCE

GATE

FENCE

TIMBER POST & RAIL FENCE

GATE

GRASS

ROCK

BOTTOM OF BANK

RAIL GATE

POST & RAIL FENCE

GRASS

TIMBER RAIL FENCE

AREA

EQUESTRIAN

LOG RET. WALL

SANDSTONE RETAINING WALL

TOP OF TYRE FENCE

DAM

SHED

TOP OF BANK

LOT 1
AREA : 2.02 ha
DP 598867

NEW LANAI AND 90kL POOL

EX TANKS

133.15 EX BB

132.60 EX BB

DECK 135.30 RL

135.07 EX TB

134.88 EX TB

132.71 EX BB

POOL

134.07

134.33 BB

135.30

135.60

135.32 EX TB

135.80 EX TB

135.43 EX TB

133.77 EX BB

135.60

133.82

135.86

136.00

136.13 EX TW

136.21 EX

136.50

TERRACE

135.43 EX TB

133.90 EX BB

136.02 EX TB

136.24 EX TB

136.14 EX TB

136.06 EX TB

133.66 EX BB

133.30 EX BB

133.25 EX BB

NEW LANDSCAPING + STEPS TO LANDSCAPE ARCHITECT'S DETAIL

NEW ALTERATIONS AND SECOND STOREY

EXISTING SINGLE STOREY DWELLING

NEW WALKWAY

NEW GARAGE

PADDOCK

EX WATER TANK

135.81 EX TB

SHRUBS

BOTTOM OF BANK

WIRE FENCE

& SMALL AREA OF ROCK OUTCROP

133.49 BB

133.33

133.75 BB

133.34

BANK 133.40 BB

133.98

134.39

135.14 TB

136.77

136.32 TB

137.27 TW

EXISTING TRACK TO PADDOCK

CONC. APRON

NEW SW DRAIN SW1

EXISTING BITUMEN SURFACE

VISITOR PARKING 136.87

137.59 TW

SHRUBS

POST AND TIMBER FENCE

215°

137.49

137.39 TW

137.32

137.26

137.25

137.77 TW

WITH TREES & SHRUBS

AREA PLANTED

GARDEN

BORDER

WALL

DRIVEWAY RETAINING

137.41

137.23

136.99

140.08

140.03

139.97

139.89

139.77

139.65

139.00

137.98

140.14

140.17

140.02

139.90

140.46

140.56 BM

EDGE OF EXISTING STONE

140.45

141.52

141.40

141.20

141.11

141.01

140.95

141.38

141.30 TW

142.13

142.85

142.20 DWAY

142.04

141.82

142.24 BR

142.18 BR

142.14 BR

142.07 BR

142.09 BR

142.72 BR

142.30 BR

142.41 DWAY

142.72 DWAY

142.76 EC

142.76 DWAY

142.15 EC

142.08

142.25 EC

141.85 T

141.67 EC

141.58 EC

140.98 EC

140.89

140.39

139.50

139.55 EX BB

139.46 EC

139.18

139.62

139.57 T

139.40 T

139.81 NS

139.23 EC

139.25 EC

139.23

139.08 T

139.37

138.60 EX CONCRETE PATH

137.46 EX

137.90

136.71

136.93

136.70

136.61

136.56

137.45

138.02 TB

137.57 EX

EX CONCRETE PATH

EX SW PIT RL 139.23

100 WIDE GRATED DRAIN SW1

NEW ENTRY FORECOURT
Boral 'Hydrapave' Pavers

NEW VISITOR PARKING AREA

NATURAL ROCK

GARDEN AREA PLANTED WITH SHRUBS/ TREES

NEW LANDSCAPED PATH TO ENTRY

REMOVE EXISTING PATH

EX SW DRAIN AND SUMP

NEW SW DRAIN SW1

NEW 1 X 3060L METAL RAIN TANK INSTALL NEW DP FROM EXIST. GUTTER TO TANK

DIMENSION A

DISTANCE TO ENTRY REFER BLOCK PLAN

CONCRETE PATH

RAMP

PAVED AREA

EXIST. METAL SHED

HEN HOUSE

RWT

CONCRETE DRIVEWAY

SPOON DRAIN

EXISTING

EXTERNAL

BM NAIL IN BITUMEN DRIVEWAY RL 140.56

ROCK OUTCROP

SMALL TREES AND SHRUBS

TIMBER POST & RAIL FENCE

269'

CHICKEN WIRE FENCE

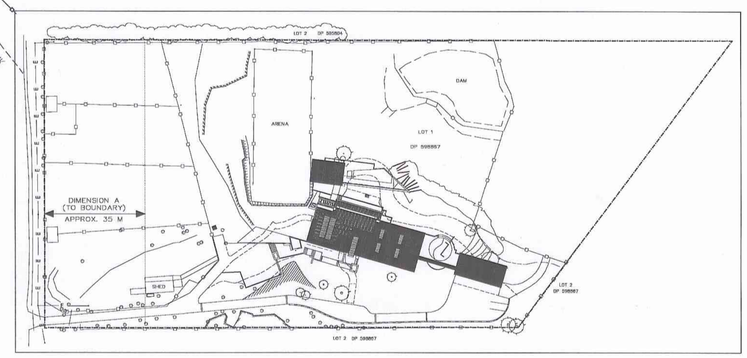
165.2

55'

GARDEN AREA PLANTED WITH TREES & SHRUBS

20"

LOT 2 DP 598867



BLOCK PLAN 1:1000

insight building certifiers pty ltd
CONSTRUCTION CERT. NO. 209/3215
CONSTRUCTION CERTIFICATE PLANS
I certify that the work completed in accordance with these plans & specifications will comply with the regulations referred to in Section 81A(5) of the Environmental Planning & Assessment Act 1979
S. Pinn Accreditation No. BPB 0326

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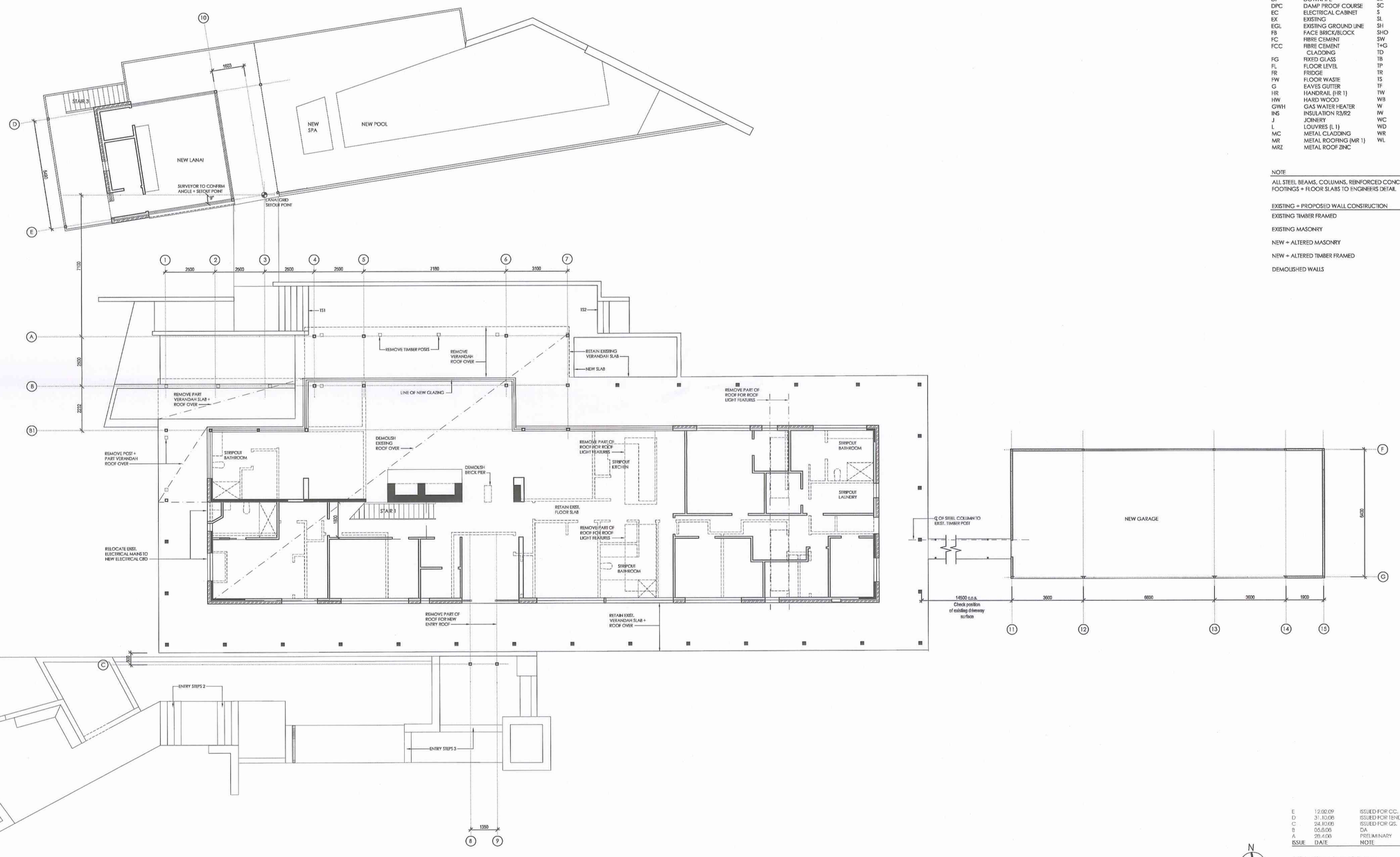
ISSUE	DATE	NOTE
E	12.02.09	ISSUED FOR CC.
D	31.10.08	ISSUED FOR TENDER
C	24.10.08	ISSUED FOR DS.
B	05.09.08	DA
A	28.4.08	PRELIMINARY

Alterations to residence
22 Chiltern Road, Ingleside

Site plan

Scale 1:200 @ A1
Drawing no 0707.22E

LEAHEY ARCHITECTS
99 Beattie Street Balmain 2041
Telephone 02 9555 6866 Fax 02 9555 6877



DEMOLITION/ SETOUT PLAN 1:100

Notes

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Do not scale from drawing.
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All discrepancies are to be brought to the attention of the author.

LEGEND

B	BASIN	O	OVEN
C	CUPBOARD	OF	OVERFLOW
CL	CEILING LEVEL	OG	OBSCURE GLASS
CONC	CONCRETE	P	PAINT
CONC. EA	CONC. EXPOSED AGG	PB	PLASTERBOARD
CT	COOK TOP	PLY	ECO PLYWOOD
BP	BRICK PAVING	PT	PAVING TILE
CR	CEMENT RENDER	RC	REINFORCED CONCRETE
D	DOOR (D 1)	RL	RELATIVE LEVEL
DR	ROLLER DOOR (DR 1)	RWT	RAINWATER TANK
DP	DOWNPIPE	SB	STEEL BEAM
DPC	DAMP PROOF COURSE	SC	STEEL COLUMN
EC	ELECTRICAL CABINET	S	KITCHEN SINK
EX	EXISTING	SL	LAUNDRY TUB
EGL	EXISTING GROUND LINE	SH	SHUTTER (SH 1)
FB	FACE BRICK/BLOCK	SHO	SHOWER
FC	FIBRE CEMENT	SW	STORMWATER
FCC	FIBRE CEMENT CLADDING	T+G	T+G TIMBER FLOORING
		TD	TIMBER DECKING
FG	FIXED GLASS	TB	TIMBER BEAM
FL	FLOOR LEVEL	TP	TIMBER POST
FR	FRIDGE	TR	TILES ROOF
FW	FLOOR WASTE	TS	TIMBER SCREEN (TS 1)
G	EAVES GUTTER	TF	TILES FLOOR
HR	HANDRAIL (HR 1)	TW	TILES WALL
HW	HARD WOOD	WB	WEATHER BOARD
GWH	GAS WATER HEATER	W	WINDOW (W 1)
INS	INSULATION R3/R2	IW	INTERNAL WINDOW (IW 1)
J	JOINERY	WC	TOILET
L	LOUVRES (L 1)	WD	WINDOW DOOR (WD 1)
MC	METAL CLADDING	WR	WINDOW ROOF (WR 1)
MR	METAL ROOFING (MR 1)	WL	WINDOW LOUVRES (WL 1)
MRZ	METAL ROOF ZINC		

NOTE

ALL STEEL BEAMS, COLUMNS, REINFORCED CONCRETE FOOTINGS + FLOOR SLABS TO ENGINEERS DETAIL

EXISTING + PROPOSED WALL CONSTRUCTION

EXISTING TIMBER FRAMED
EXISTING MASONRY
NEW + ALTERED MASONRY
NEW + ALTERED TIMBER FRAMED
DEMOLISHED WALLS

ISSUE	DATE	NOTE
E	12.02.09	ISSUED FOR CC.
D	31.10.08	ISSUED FOR TENDER
C	24.10.08	ISSUED FOR QS.
B	05.8.08	DA
A	09.4.08	PRETIMINARY

Alterations to residence
22 Chiltern Road, Ingleside

Demolition + setout

Scale 1:100
Drawing no **0707.24E**

LEAHEY ARCHITECTS
99 Beattie Street Balmain 2041
Telephone 02 9555 6866 Fax 02 9555 6877

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POOL PLANT

GROUND FLOOR

LEGEND

B	BASIN	O	OVEN
C	CUPBOARD	OF	OVERFLOW
CL	CEILING LEVEL	OG	OBSCURE GLASS
CONC	CONCRETE	P	PAINT
CONC. FA	CONC. EXPOSED AGG	PB	PLASTERBOARD
CT	COOK TOP	PLY	ECO PLYWOOD
CJ	CONSTRUCTION JOINT	PT	PAVING TILE
BP	BRICK PAVING	RC	REINFORCED CONCRETE
CR	CEMENT RENDER	RL	RELATIVE LEVEL
CRO	CEMENT RENDER OXIDE	RWT	RAINWATER TANK
D	DOOR (D 1)	S	KITCHEN SINK
DR	ROLLER DOOR (DR 1)	SB	STEEL BEAM
DP	DOWNPIPE	SC	STEEL COLUMN
DPC	DAMP PROOF COURSE	SF	SHEET FLOORING
EC	ELECTRICAL CABINET	SL	LAUNDRY TUB
EX	EXISTING	SM	SMOKE DETECTOR
EGL	EXISTING GROUND LINE	SH	SHUTTER (SH 1)
EJ	EXPANSION JOINT	SHO	SHOWER
FB	FACE BRICK/BLOCK	ST	STONE FACED
FC	FIBRE CEMENT	SW	STORMWATER
FCC	FIBRE CEMENT CLADDING	T+G	T+G TIMBER FLOORING
		TD	TIMBER DECKING
FG	FIXED GLASS	TB	TIMBER BEAM
FL	FLOOR LEVEL	TP	TIMBER POST
FR	FRIDGE	TR	TILES ROOF
FW	FLOOR WASTE	TS	TIMBER SCREEN (TS 1)
G	EAVES GUTTER	TF	TILES FLOOR
HR	HANDRAIL (HR 1)	TW	TILES WALL
HW	HARD WOOD	WB	WEATHER BOARD
GWH	GAS WATER HEATER	W	WINDOW (W 1)
INS	INSULATION R3/R2	IW	INTERNAL WINDOW (IW 1)
J	JOINERY	WC	TOILET
L	LOUVRES (L 1)	WD	WINDOW DOOR (WD 1)
MC	METAL CLADDING	WR	WINDOW ROOF (WR 1)
MF	METAL FASCIA	WL	WINDOW LOUVRES (WL 1)
MR	METAL ROOFING (MR 1)		

NOTE
ALL STEEL BEAMS, COLUMNS, REINFORCED CONCRETE FOOTINGS + FLOOR SLABS TO ENGINEERS DETAIL

EXISTING + PROPOSED WALL CONSTRUCTION

- EXISTING TIMBER FRAMED
- EXISTING MASONRY
- EXISTING CONCRETE
- NEW + ALTERED MASONRY
- NEW + ALTERED TIMBER FRAMED
- REINFORCED CONCRETE
- STONE CAPPING

ISSUE	DATE	NOTE
E	12.02.09	ISSUED FOR CC.
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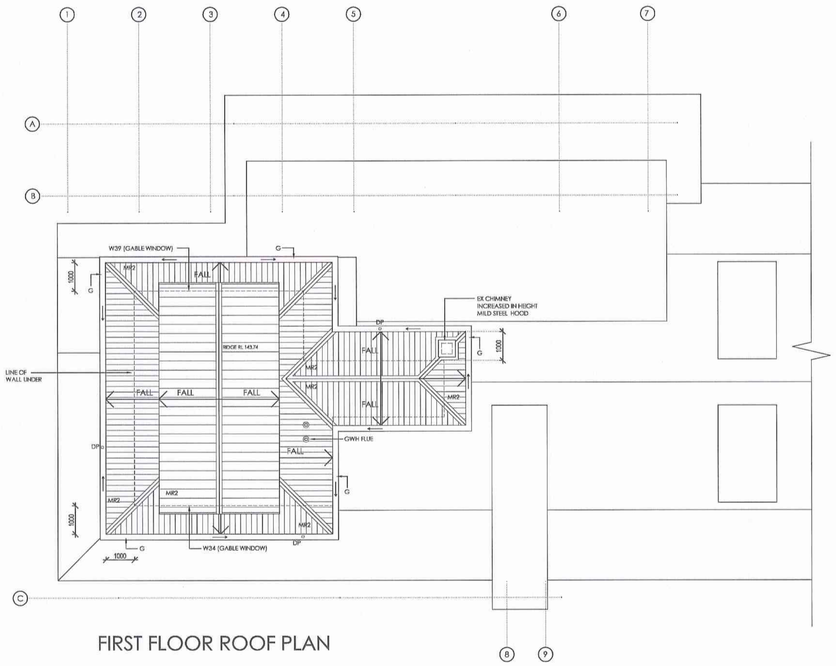
C	24.10.08	ISSUED FOR QS.
B	05.8.08	DA
A	29.4.08	PRELIMINARY

Alterations to residence
22 Chiltern Road, Ingleside

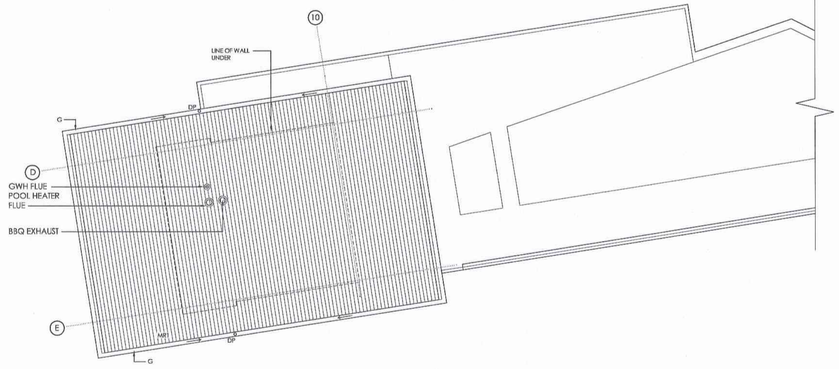
Ground floor + pool plant

Scale 1:100
Drawing no 0707.25E

LEAHEY ARCHITECTS
99 beattie street balmain 2041
Telephone 02 9555 6866 Fax 02 9555 6877



FIRST FLOOR ROOF PLAN



LANAI ROOF PLAN

Notes

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LEGEND

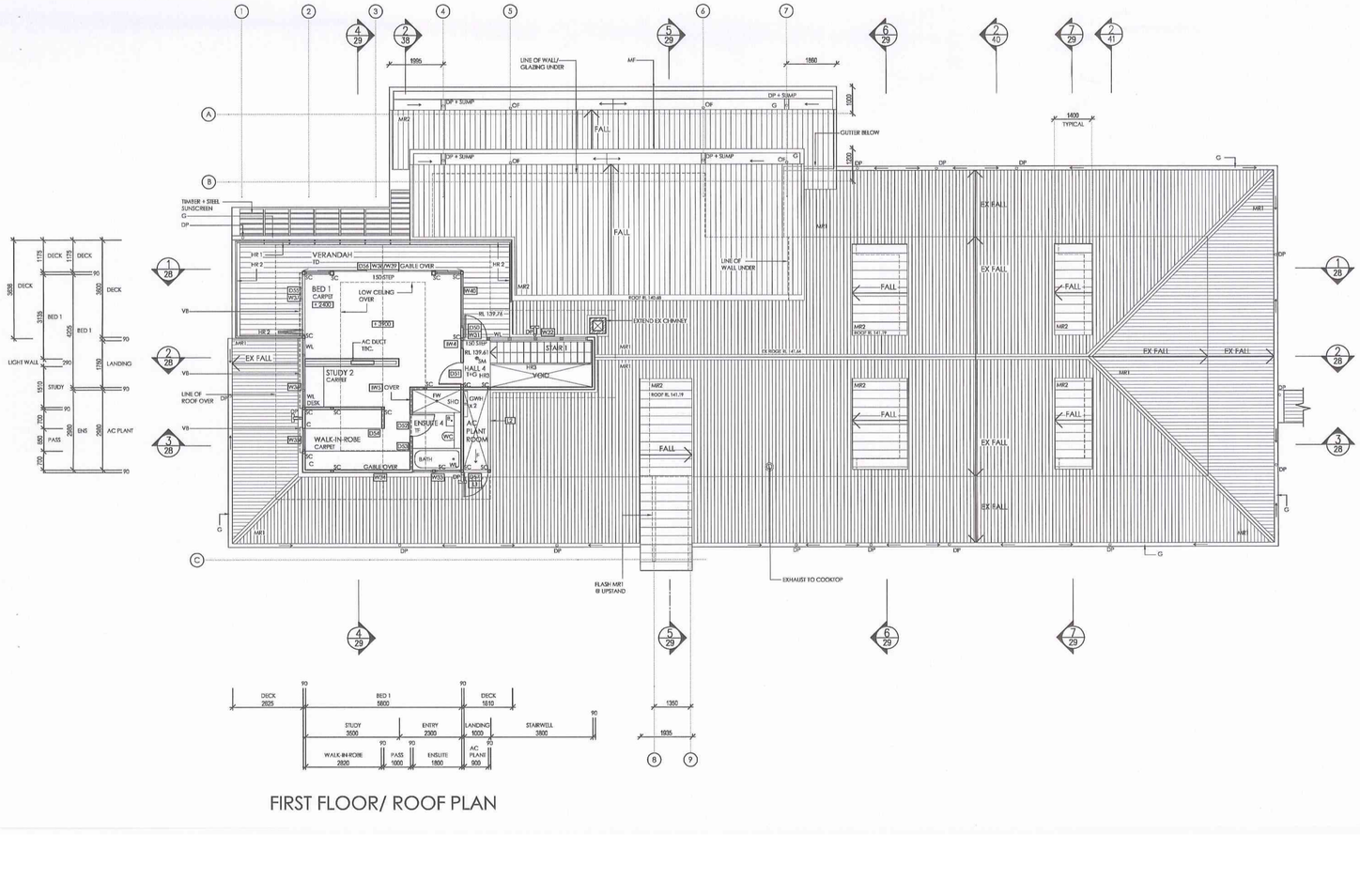
B	BASIN	O	OVEN
C	CUPBOARD	OF	OVERFLOW
CL	CEILING LEVEL	OG	OBSCURE GLASS
CONC	CONCRETE	P	PAINT
CONC. EA	CONC. EXPOSED AGG	PB	PLASTERBOARD
CRO	CEMENT RENDER OXIDE	PLY	ECO PLYWOOD
CT	COOK TOP	PT	PAVING TILE
BP	BRICK PAVING	RC	REINFORCED CONCRETE
CR	CEMENT RENDER	RL	RELATIVE LEVEL
D	DOOR (D 1)	RWT	RAINWATER TANK
DR	ROLLER DOOR (DR 1)	S	KITCHEN SINK
DP	DOWNPIPE	SB	STEEL BEAM
DPC	DAMP PROOF COURSE	SC	STEEL COLUMN
EC	ELECTRICAL CABINET	SF	SURFACE FLOORING
EJ	EXPANSION JOINT	SL	LAUNDRY TUB
EX	EXISTING	SM	SMOKE DETECTOR
EGL	EXISTING GROUND LINE	SH	SHUTTER (SH 1)
FB	FACE BRICK/BLOCK	SHO	SHOWER
FC	FIBRE CEMENT	SW	STORMWATER
FCC	FIBRE CEMENT CLADDING	T+G	T+G TIMBER FLOORING
		TD	TIMBER DECKING
FG	FIXED GLASS	TB	TIMBER BEAM
FL	FLOOR LEVEL	TP	TIMBER POST
FR	FRIDGE	TR	TILES ROOF
FW	FLOOR WASTE	TS	TIMBER SCREEN (TS 1)
G	EAVES GUTTER	TF	TILES FLOOR
HR	HANDRAIL (HR 1)	TW	TILES WALL
HW	HARD WOOD	WB	WEATHER BOARD
GWH	GAS WATER HEATER	W	WINDOW (W 1)
INS	INSULATION R3/R2	IW	INTERNAL WINDOW (IW 1)
J	JOINERY	WC	TOILET
L	LOUVRES (L 1)	WD	WINDOW DOOR (WD 1)
MC	METAL CLADDING	WR	WINDOW ROOF (WR 1)
MF	METAL FASCIA	WL	WINDOW LOUVRES (WL 1)
MR	METAL ROOFING (MR 1)		

NOTE

ALL STEEL BEAMS, COLUMNS, REINFORCED CONCRETE FOOTINGS + FLOOR SLABS TO ENGINEERS DETAIL

EXISTING + PROPOSED WALL CONSTRUCTION

EXISTING TIMBER FRAMED	
EXISTING MASONRY	
EXISTING CONCRETE	
NEW + ALTERED MASONRY	
NEW + ALTERED TIMBER FRAMED	
REINFORCED CONCRETE	



FIRST FLOOR/ ROOF PLAN

ISSUE	DATE	NOTE
E	12.02.09	ISSUED FOR CC.
D	31.10.08	ISSUED FOR TENDER
C	26.10.08	ISSUED FOR QS.
B	06.08.08	DA
A	25.4.08	PRELIMINARY

Alterations to residence

22 Chiltern Road, Ingleside

First floor + roof plan

Scale 1:100
Drawing no 0707.26E

LEAHEY ARCHITECTS
99 Beattie Street Balmain 2041
Telephone 02 9555 6866 Fax 02 9555 6877

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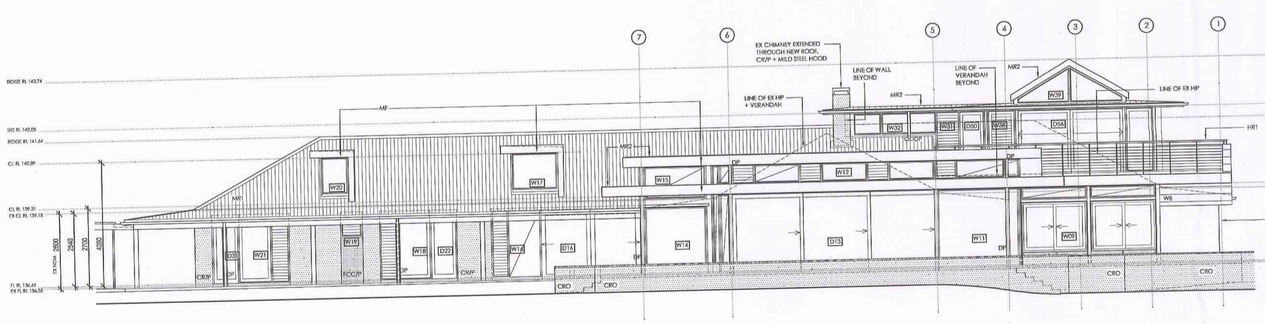
LEGEND

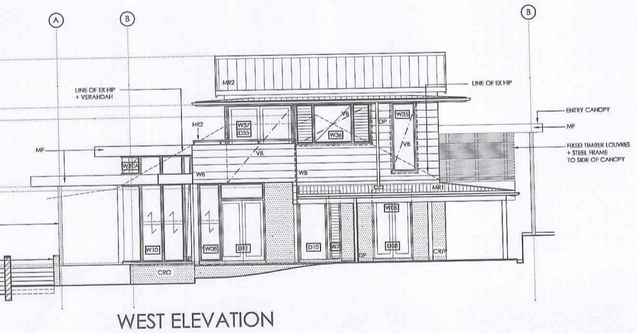
B	BASIN	O	OVEN
C	CUPBOARD	OF	OVERFLOW
CL	CEILING LEVEL	OG	OBSCURE GLASS
CONC	CONCRETE	P	PAINT
CONC. EA	CONC. EXPOSED AGG	PB	PLASTERBOARD
CRO	CEMENT RENDER OXIDE	PLY	ECO PLYWOOD
CT	COOK TOP	PT	PAVING TILE
BP	BRICK PAVING	RC	REINFORCED CONCRETE
CR	CEMENT RENDER	RL	RELATIVE LEVEL
D	DOOR (D 1)	RWT	RAINWATER TANK
DR	ROLLER DOOR (DR 1)	SB	STEEL BEAM
DP	DOWNPIPE	SC	STEEL COLUMN
DPC	DAMP PROOF COURSE	S	KITCHEN SINK
EC	ELECTRICAL CABINET	SL	LAUNDRY TUB
EJ	EXPANSION JOINT	SH	SHUTTER (SH 1)
EX	EXISTING	SHO	SHOWER
EGL	EXISTING GROUND LINE	SW	STORMWATER
FB	FACE BRICK/BLOCK	T+G	T+G TIMBER FLOORING
FC	FIBRE CEMENT	TD	TIMBER DECKING
FCC	FIBRE CEMENT CLADDING	TB	TIMBER BEAM
		TP	TIMBER POST
FG	FIXED GLASS	TR	TILES ROOF
FL	FLOOR LEVEL	TS	TIMBER SCREEN (TS 1)
FR	FRIDGE	TF	TILES FLOOR
FW	FLOOR WASTE	TW	TILES WALL
G	EAVES GUTTER	VB	VENTAL BLINDS
HR	HANDRAIL (HR 1)	WB	WEATHER BOARD
HW	HARD WOOD	W	WINDOW (W 1)
GWH	GAS WATER HEATER	IW	INTERNAL WINDOW (IW 1)
INS	INSULATION R5/R2	WC	TOILET
J	JOINERY	WD	WINDOW DOOR (WD 1)
L	LOUVRES (L 1)	WR	WINDOW ROOF (WR 1)
MC	METAL CLADDING	WL	WINDOW LOUVRES (WL 1)
MF	METAL FASCIA		
MR	METAL ROOFING (MR 1)		

NOTE

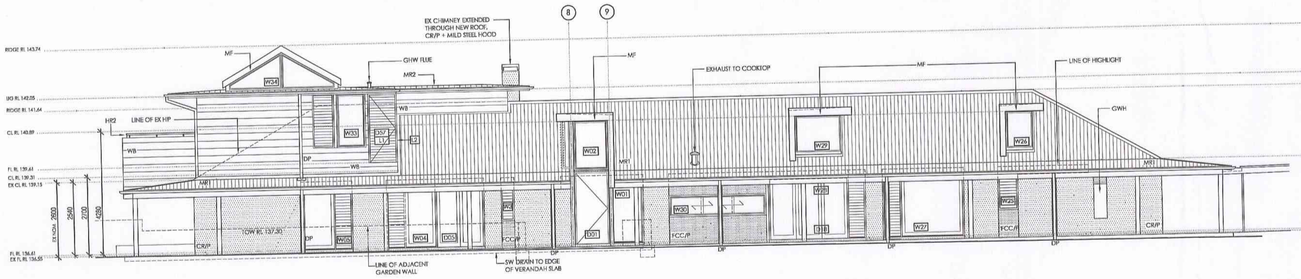
ALL STEEL BEAMS, COLUMNS, REINFORCED CONCRETE FOOTINGS + FLOOR SLABS TO ENGINEERS DETAIL



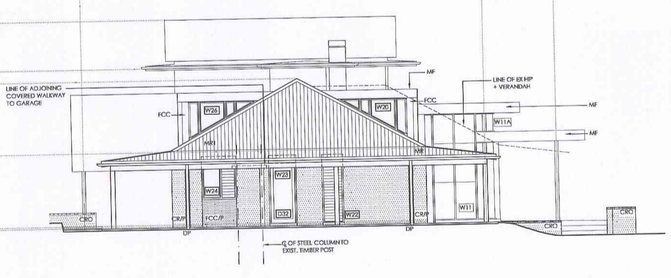
NORTH ELEVATION



WEST ELEVATION



SOUTH ELEVATION



EAST ELEVATION

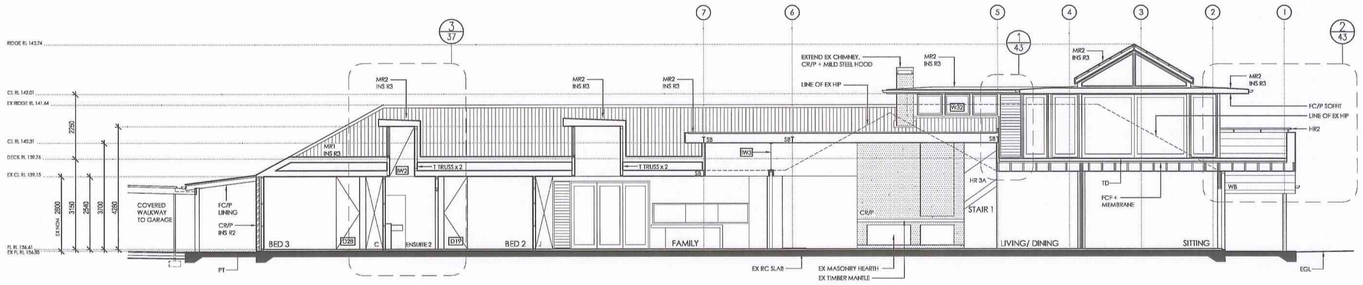
ISSUE	DATE	NOTE
E	12.02.09	ISSUED FOR CC.
D	29.10.08	ISSUED FOR TENDER
C	24.10.08	ISSUED FOR QS.
B	05.8.08	DA
A	28.4.08	PRELIMINARY

Alterations to residence
22 Chiltern Road, Ingleside

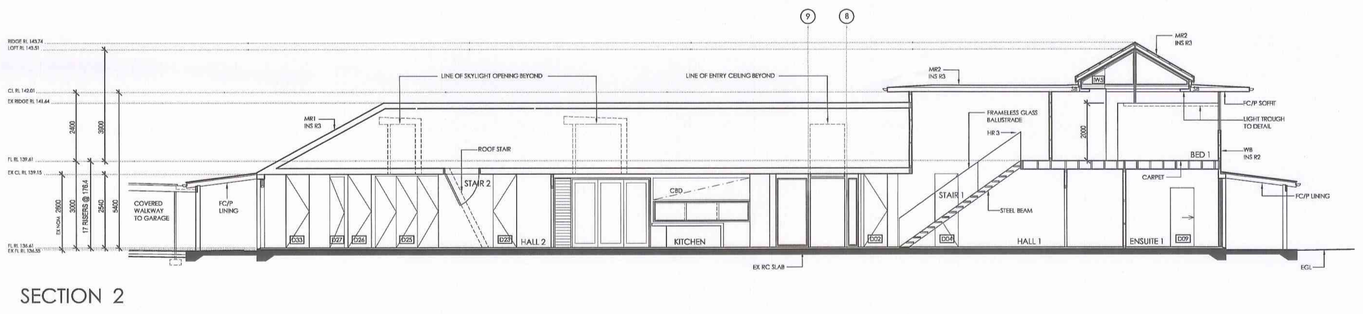
Elevations residence

Scale 1:100
Drawing no 0707.27E

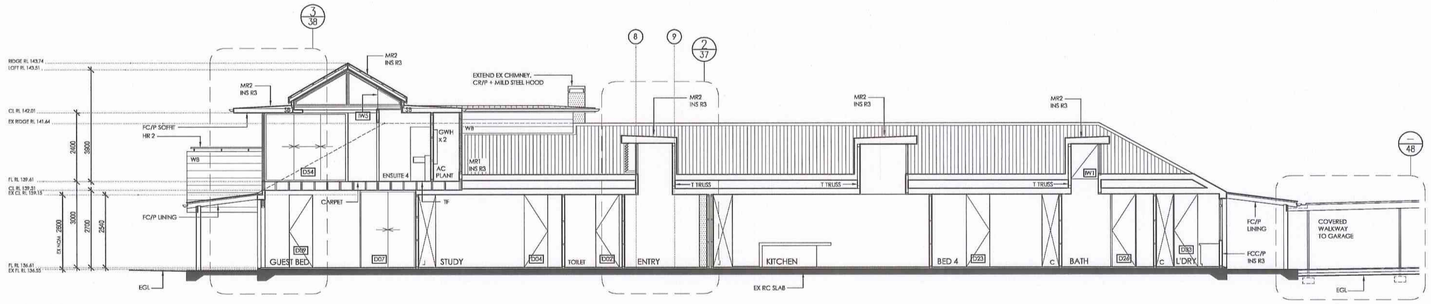
LEAHEY ARCHITECTS
99 Beattie street Balmain 2041
Telephone 02 9555 8866 Fax 02 9555 6877



SECTION 1



SECTION 2



SECTION 3

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LEGEND

B	BASIN	O	OVEN
C	CUPBOARD	OF	OVERFLOW
CL	CEILING LEVEL	OG	OBSCURE GLASS
CONC	CONCRETE	P	PAINT
CONC. EA	CONC. EXPOSED AGG	PB	PLASTERBOARD
CT	COOK TOP	PLY	ECO PLYWOOD
BP	BRICK PAVING	PT	PAVING TILE
CR	CEMENT RENDER	RC	REINFORCED CONCRETE
D	DOOR (D 1)	RL	RELATIVE LEVEL
DR	ROLLER DOOR (DR 1)	RWT	RAINWATER TANK
DP	DOWNPIPE	SB	STEEL BEAM
DPC	DAMP PROOF COURSE	SC	STEEL COLUMN
EC	ELECTRICAL CABINET	S	KITCHEN SINK
EX	EXISTING	SL	LAUNDRY TUB
EGL	EXISTING GROUND LINE	SH	SHUTTER (SH 1)
FB	FACE BRICK/BLOCK	SHO	SHOWER
FC	FIBRE CEMENT	SW	STORMWATER
FCC	FIBRE CEMENT CLADDING	T+G	T+G TIMBER FLOORING
		TD	TIMBER DECKING
FCF	FIBRE CEMENT FLOORING	TB	TIMBER BEAM
		TP	TIMBER POST
FG	FIXED GLASS	TR	TILES ROOF
FL	FLOOR LEVEL	TS	TIMBER SCREEN (TS 1)
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HR	HANDRAIL (HR 1)	W	WINDOW (W 1)
HW	HARD WOOD	IW	INTERNAL WINDOW (IW 1)
GWH	GAS WATER HEATER	WC	TOILET
INS	INSULATION R3/R2	WD	WINDOW DOOR (WD 1)
J	JOINERY	WR	WINDOW ROOF (WR 1)
L	LOUVRES (L 1)	WL	WINDOW LOUVRES (WL 1)
MC	METAL CLADDING		
MF	METAL FASCIA		
MR	METAL ROOFING (MR 1)		

NOTE

ALL STEEL BEAMS, COLUMNS, REINFORCED CONCRETE FOOTINGS + FLOOR SLABS TO ENGINEERS DETAIL

EXISTING + PROPOSED WALL CONSTRUCTION

EXISTING TIMBER FRAMED	
EXISTING MASONRY	
EXISTING CONCRETE	
NEW + ALTERED MASONRY	
NEW + ALTERED TIMBER FRAMED	
REINFORCED CONCRETE	

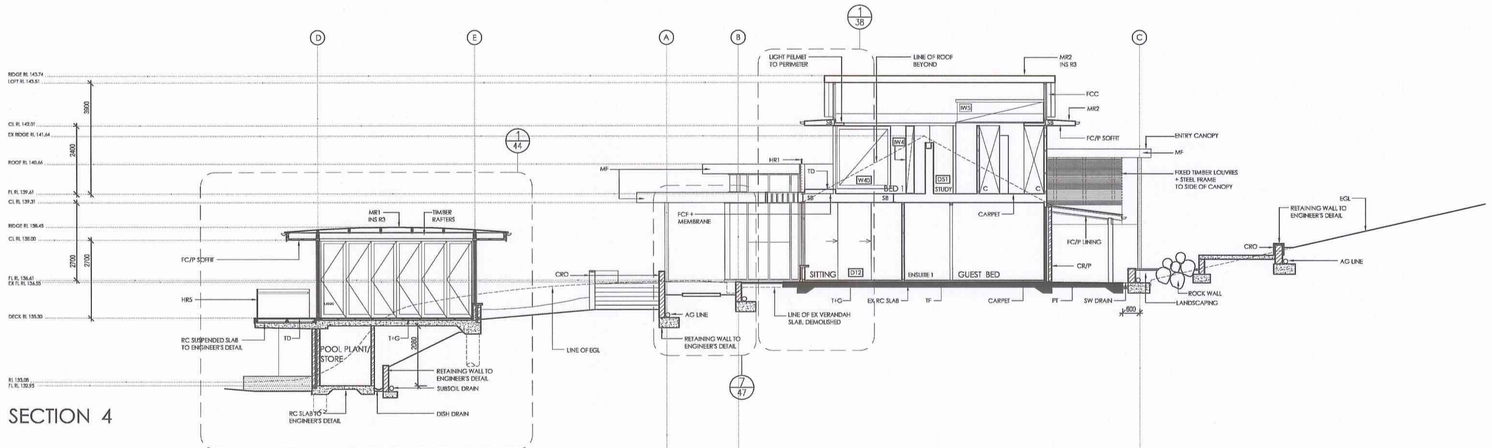
ISSUE	DATE	NOTE
E	1.2.02.09	ISSUED FOR CC.
D	31.10.08	ISSUED FOR TENDER
C	24.10.08	ISSUED FOR QS.
B	05.8.08	DA
A	29.4.08	PRELIMINARY

Alterations to residence
22 Chiltern Road, Ingleside

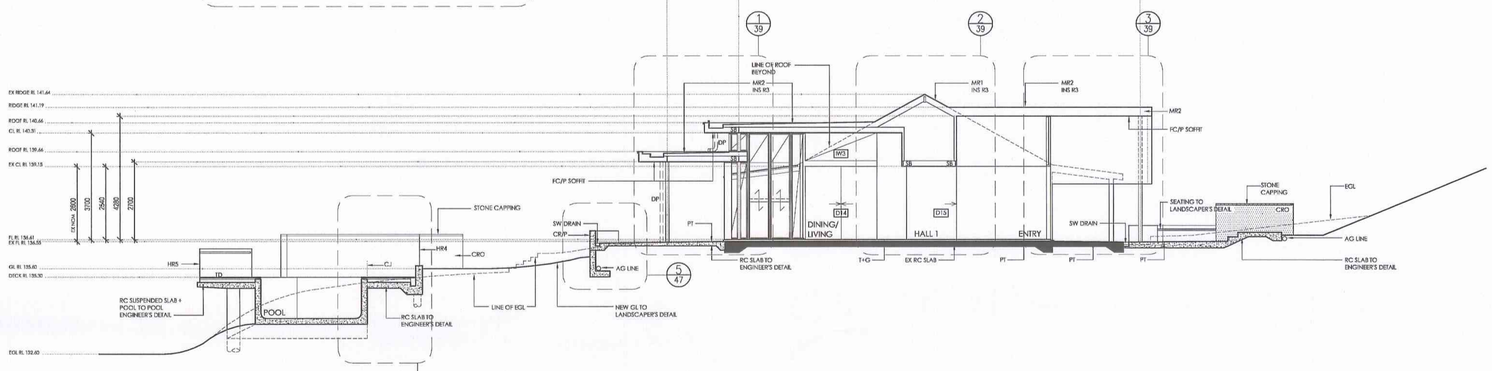
Sections 1, 2 + 3

Scale 1:100
Drawing no **0707.28E**

LEAHEY ARCHITECTS
99 Beattie Street Balmain 2041
Telephone 02 9555 6866 Fax 02 9555 6877



SECTION 4



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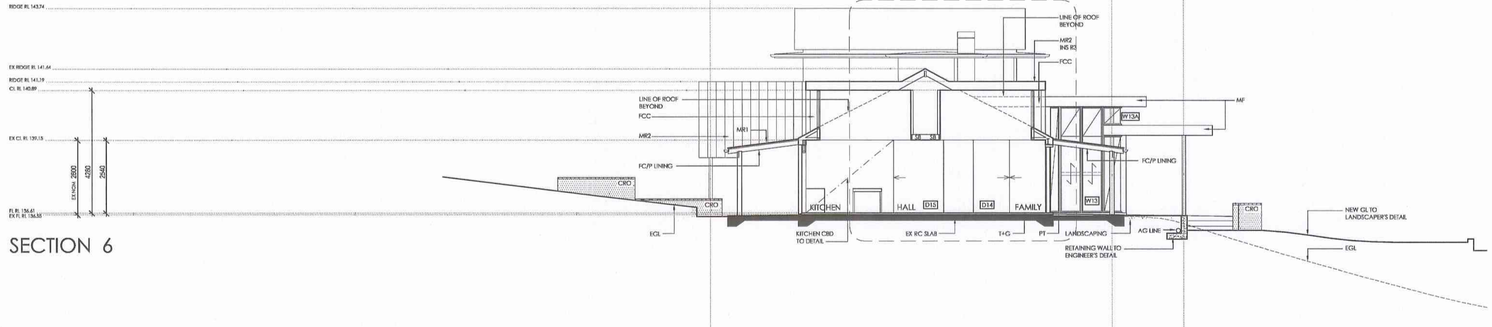

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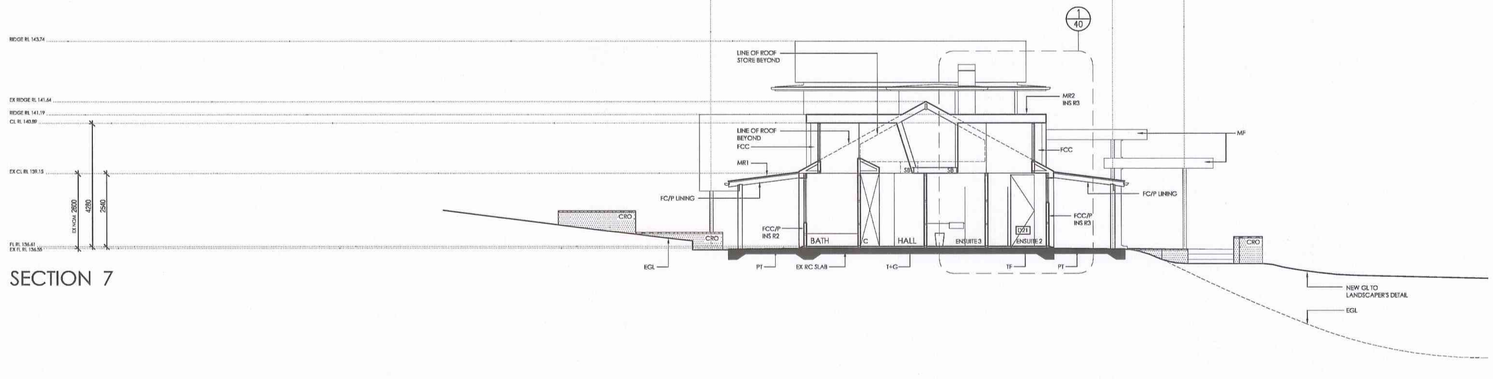

SECTION 7

Notes

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LEGEND

B	BASIN	O	OVEN
C	CUPBOARD	OF	OVERFLOW
CL	CEILING LEVEL	OG	OBSCURE GLASS
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CT	COOK TOP	PLY	ECO PLYWOOD
BP	BRICK PAVING	PT	PAVING TILE
CR	CEMENT RENDER	RC	REINFORCED CONCRETE
CRO	CEMENT RENDER OXIDE	RL	RELATIVE LEVEL
D	DOOR (D 1)	RWT	RAINWATER TANK
DR	ROLLER DOOR (DR 1)	SB	STEEL BEAM
DP	DOWNPIPE	SC	STEEL COLUMN
DPC	DAMP PROOF COURSE	S	KITCHEN SINK
EC	ELECTRICAL CABINET	SL	LAUNDRY TUB
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EX	EXISTING	SHO	SHOWER
EGL	EXISTING GROUND LINE	SW	STORMWATER
FB	FACE BRICK/BLOCK	T+G	T+G TIMBER FLOORING
FC	FIBRE CEMENT	TD	TIMBER DECKING
FCC	FIBRE CEMENT CLADDING	TB	TIMBER BEAM
FCF	FIBRE CEMENT FLOORING	TP	TIMBER POST
FG	FIXED GLASS	TR	TILES ROOF
FL	FLOOR LEVEL	TS	TIMBER SCREEN (TS 1)
FR	FRIDGE	TF	TILES FLOOR
FW	FLOOR WASTE	TW	TILES WALL
G	EAVES GUTTER	WB	WEATHER BOARD
HR	HANDRAIL (HR 1)	W	WINDOW (W 1)
HW	HARD WOOD	IW	INTERNAL WINDOW (IW 1)
GWH	GAS WATER HEATER	WC	TOILET
INS	INSULATION R3/R2	WD	WINDOW DOOR (WD 1)
J	JOINERY	WR	WINDOW ROOF (WR 1)
L	LOUVRES (L 1)	WL	WINDOW LOUVRES (WL 1)
MC	METAL CLADDING		
MF	METAL FASCIA		
MR	METAL ROOFING (MR 1)		

NOTE

ALL STEEL BEAMS, COLUMNS, REINFORCED CONCRETE FOOTINGS + FLOOR SLABS TO ENGINEERS DETAIL

EXISTING + PROPOSED WALL CONSTRUCTION

EXISTING TIMBER FRAMED
EXISTING MASONRY
EXISTING CONCRETE
NEW + ALTERED MASONRY
NEW + ALTERED TIMBER FRAMED
REINFORCED CONCRETE

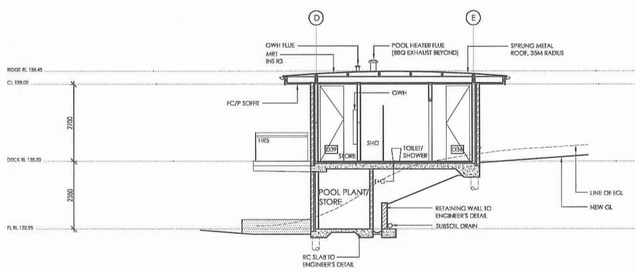
ISSUE	DATE	NOTE
E	12.02.09	ISSUED FOR CC.
D	21.10.08	ISSUED FOR TENDER
C	24.10.08	ISSUED FOR QS.
B	05.8.08	DA
A	28.4.08	PRELIMINARY

Alterations to residence
22 Chiltern Road, Ingleside

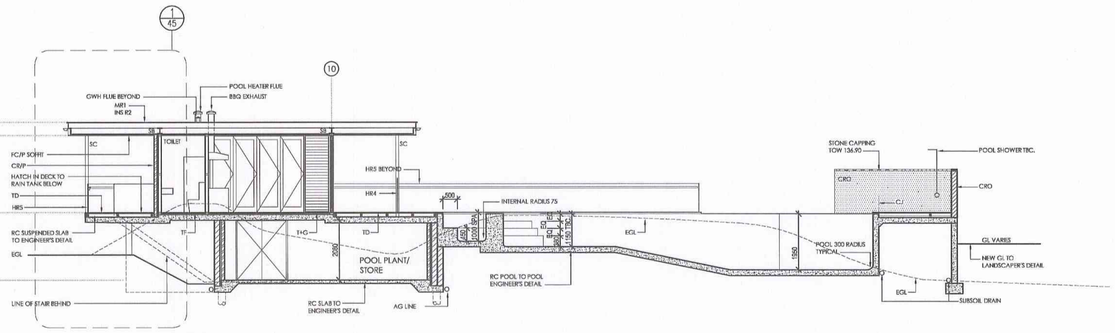
Sections 4, 5, 6 + 7

Scale 1:100
Drawing no 0707.29E

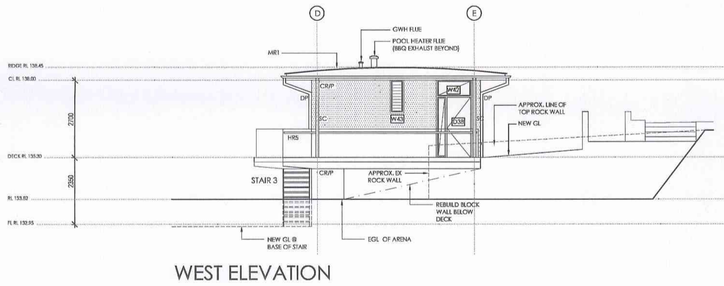
LEAHEY ARCHITECTS
99 Beattie Street Balmain 2041
Telephone 02 9555 6866 Fax 02 9555 6877



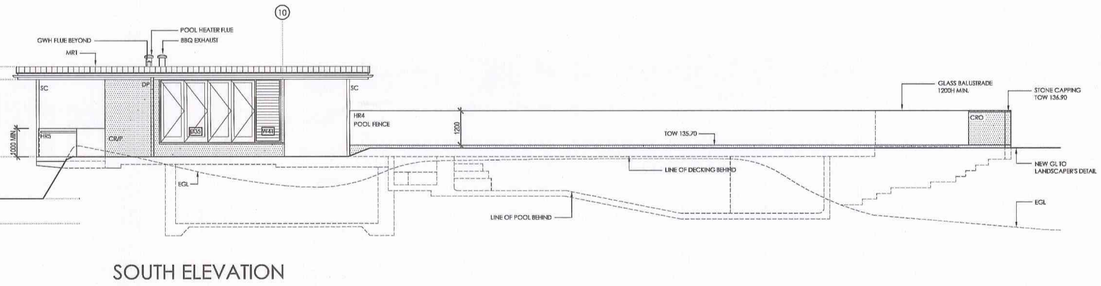
SECTION 8



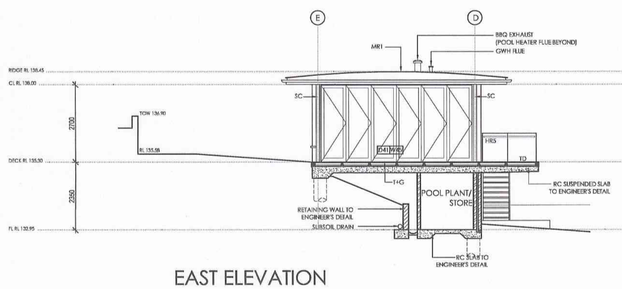
SECTION 9



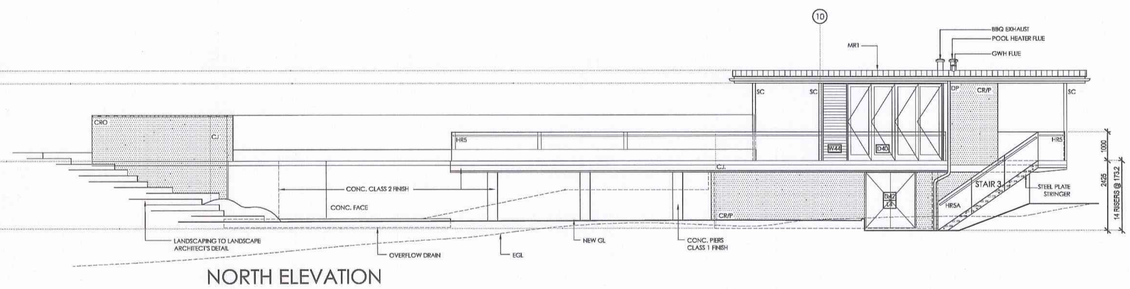
WEST ELEVATION



SOUTH ELEVATION



EAST ELEVATION



NORTH ELEVATION

Notes

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LEGEND

B	BASIN	O	OVEN
C	CUPBOARD	OF	OVERFLOW
CL	CEILING LEVEL	OG	OBSCURE GLASS
CONC	CONCRETE	P	PAINT
CONC. EA	CONC. EXPOSED AGG	PB	PLASTERBOARD
CRO	CEMENT RENDER OXIDE	PLY	ECO PLYWOOD
CT	COOK TOP	PT	PAVING TILE
BP	BRICK PAVING	RC	REINFORCED CONCRETE
CR	CEMENT RENDER	RL	RELATIVE LEVEL
D	DOOR (D 1)	RWT	RAINWATER TANK
DR	ROLLER DOOR (DR 1)	SB	STEEL BEAM
DP	DOWNPIPE	SC	STEEL COLUMN
DPC	DAMP PROOF COURSE	S	KITCHEN SINK
EC	ELECTRICAL CABINET	SL	LAUNDRY TUB
EJ	EXPANSION JOINT	SH	SHUTTER (SH 1)
EX	EXISTING	SHO	SHOWER
EGL	EXISTING GROUND LINE	SW	STORMWATER
FB	FACE BRICK/BLOCK	T+G	T+G TIMBER FLOORING
FC	FIBRE CEMENT	TD	TIMBER DECKING
FCC	FIBRE CEMENT CLADDING	TB	TIMBER BEAM
FG	FIXED GLASS	TP	TIMBER POST
FL	FLOOR LEVEL	TR	TILES ROOF
FR	FRIDGE	TS	TIMBER SCREEN (TS 1)
FW	FLOOR WASTE	TF	TILES FLOOR
G	EAVES GUTTER	TW	TILES WALL
HR	HANDRAIL (HR 1)	WB	WEATHER BOARD
HW	HARD WOOD	W	WINDOW (W 1)
GWH	GAS WATER HEATER	IW	INTERNAL WINDOW (IW 1)
INS	INSULATION R3/R2	WC	TOILET
J	JOINERY	WD	WINDOW DOOR (WD 1)
L	LOUVRES (L 1)	WR	WINDOW ROOF (WR 1)
MC	METAL CLADDING	WL	WINDOW LOUVRES (WL 1)
MF	METAL FASCIA		
MR	METAL ROOFING (MR 1)		

NOTE

ALL STEEL BEAMS, COLUMNS, REINFORCED CONCRETE FOOTINGS + FLOOR SLABS TO ENGINEERS DETAIL

EXISTING + PROPOSED WALL CONSTRUCTION

EXISTING TIMBER FRAMED	
EXISTING MASONRY	
EXISTING CONCRETE	
NEW + ALTERED MASONRY	
NEW + ALTERED TIMBER FRAMED	
REINFORCED CONCRETE	

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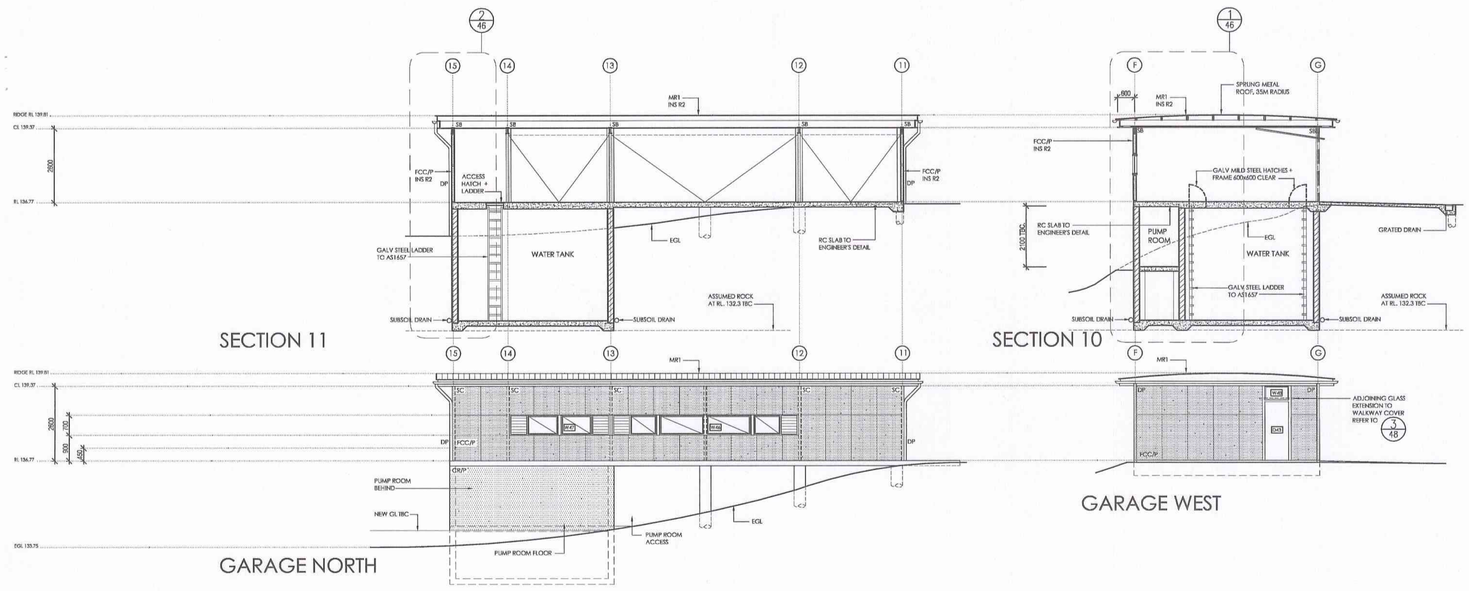
Alterations to residence

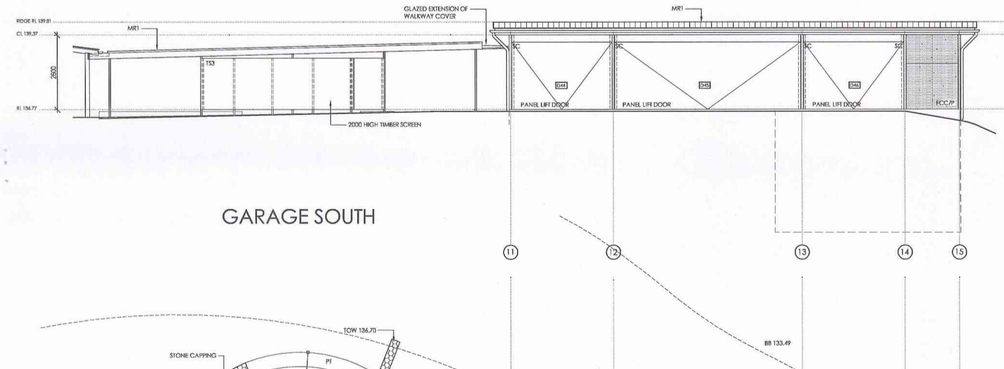
22 Chiltern Road, Ingleside

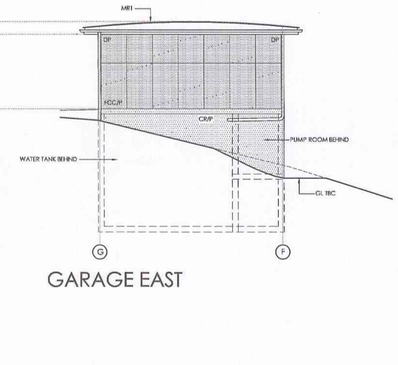
Elevations / sections - Lanai

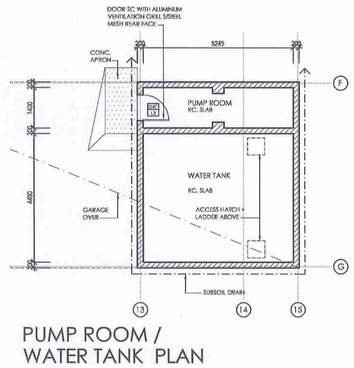
Scale 1:100
Drawing no **0707.30E**

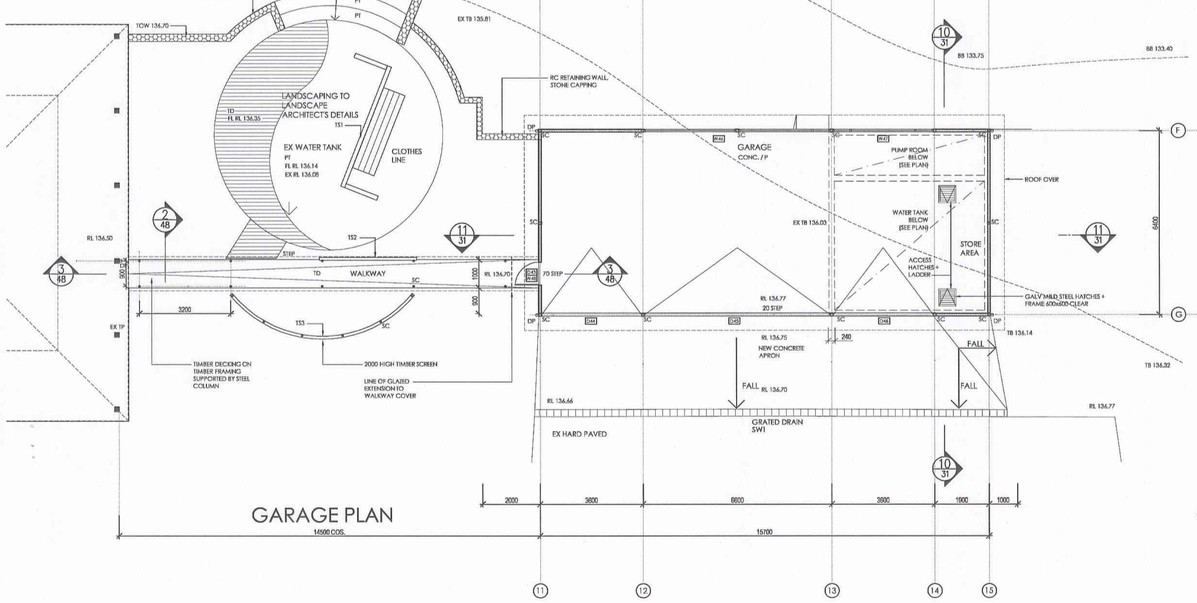
LEAHEY ARCHITECTS
99 Beattie Street Balmain 2041
Telephone 02 9555 6866 Fax 02 9555 6877

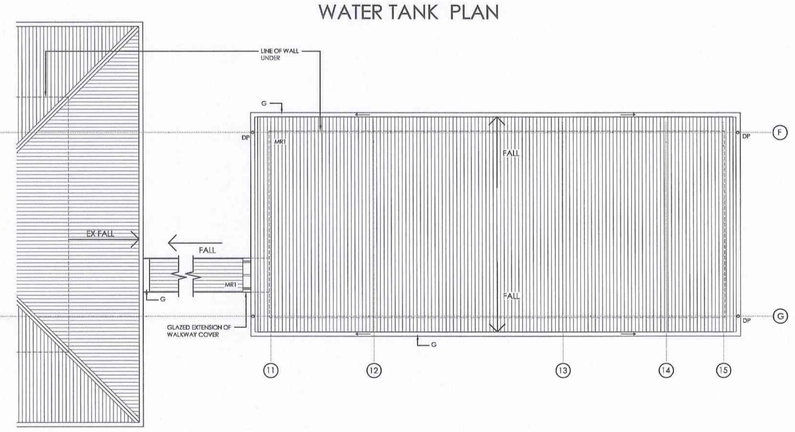












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Alterations to residence
22 Chiltern Road, Ingleside

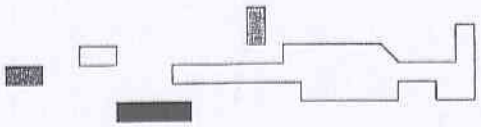
Elevations, sections + plan – garage + carport

Scale 1:100
Drawing no 0707.31E

LEAHEY ARCHITECTS
99 Beattie Street Balmain 2041
Telephone 02 9555 6866 Fax 02 9555 6877

BENVENUTI S. C. PTY LTD
CONSULTING STRUCTURAL ENGINEERS
ACN 082 755 646 ABN 35 082 755 646

Suite 12, 2 Beattie Street, Balmain NSW 2041
Ph. 61 2 9818 7513 Fax. 61 2 9818 7512
Email : benvenuti@bigpond.com.au



Leahey Architects
64 Beattie Street
Balmain NSW 2040

02/03/09
our ref:1226groundbearing

Re: Proposed alterations and additions to the existing residence at 22 Chiltern Road, Ingleside NSW

This is to certify that the strip footings, other than the footings supported by piers to rock, have been designed for and allowable bearing capacity of 90KPa in accordance with the geotechnical report No P0701714JR01 v2 prepared by Martens consulting Engineers.

The structural documentation relevant to the above certification is noted as structural drawing No's S0, S01, S02, S03, S04, S05, S06, S07, S08, S09, S10, S11, S12, S13 and S14 for our job No 1226 .

Should you have any queries please do not hesitate to contact the undersigned.

Yours Faithfully
Benvenuti S.C.Pty. Ltd.

.....
Ruggero Benvenuti
B.E.M.I.E.Aust.C.P.Eng.NPER.

COUNCIL COPY

BENVENUTI S. C. PTY LTD
CONSULTING STRUCTURAL ENGINEERS
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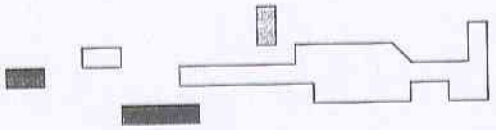

Leahey Architects
64 Beattie Street
Balmain NSW 2040

16/11/08
our ref:1226descert

Re: Proposed alterations and additions to the existing residence at 22 Chiltern Road, Ingleside NSW

This is to certify that we have carried out the design of the structural elements for the above project. The design has been in our opinion carried out to conform to the relevant SAA Codes, in particular the following:

AS 1170 Minimum Design Loads on Structures.
Part 1 Dead and Live Loads and Load Combinations
Part 2 Wind Loads
Part 4 Earthquake Loads
AS 1720 Timber Structures Code
AS 2159 Piling Code
AS 2870 Residential Slabs and Footing Code
AS 3600 Concrete Structures Code.
AS 3700 Masonry Code
AS 4100 Steel Structure Code.
Building Code of Australia- Section B- Structure.

The structural documentation relevant to the above certification is noted as structural drawing No's S0, S01, S02, S03, S04, S05, S06, S07, S08, S09, S10, S11, S12, S13 and S14 for our job No 1226 .

Should you have any queries please do not hesitate to contact the undersigned.

Yours Faithfully
Benvenuti S.C.Pty. Ltd.

.....

Ruggero Benvenuti
B.E.M.I.E.Aust.C.P.Eng.NPER.

PROPOSED ALTERATIONS & ADDITIONS AT - 22 CHILTERN ROAD, INGLESIDE, NSW

GENERAL

G1. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANT'S DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS THAT MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCIES IN THESE DOCUMENTS SHALL BE REFERRED TO THE SUPERINTENDENT FOR A DECISION BEFORE PROCEEDING WITH THE WORK.

G2. THE CONTRACTOR SHALL CHECK AND BE RESPONSIBLE FOR THE CORRECTNESS OF ALL DIMENSIONS AND ANY DISCREPANCY SHALL BE REPORTED IMMEDIATELY TO THE SUPERINTENDENT. DIMENSIONS SHALL NOT BE OBTAINED BY SCALING FROM THE DRAWINGS.

G3. STABILITY OF THE BUILDING DURING CONSTRUCTION AND EXCAVATION IN THE VICINITY OF ADJACENT BUILDINGS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, NO PART OF THE STRUCTURE SHALL BE OVER STRESSED. APPROVAL OF ALL PROPOSALS MUST BE GRANTED BY THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.

G4. THE CONTRACTOR SHALL NOTIFY THE ENGINEER FORTY EIGHT (48) HOURS BEFORE THE REINFORCEMENT IS COMPLETED. THE CONTRACTOR SHALL ALLOW TWO (2) HOURS AFTER THE COMPLETION OF THE REINFORCEMENT FOR THE ENGINEER'S INSPECTION. CONCRETE SHALL NOT BE ORDERED UNTIL THE REINFORCEMENT IS APPROVED BY THE ENGINEER.

G5. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT SAA CODES, THE BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITY AND THE SPECIFICATION.

G6. NO CHANGES SHALL BE MADE WITHOUT THE CONSENT OF THE SUPERINTENDENT.

G7. U.N.O. DENOTES UNLESS NOTED OTHERWISE.

G8. NTS DENOTES NOT TO SCALE

G9. N/R DENOTES NO RECOMMENDATION

G10. DESIGN LIVE LOADS

NON TRAFFICABLE ROOF	0.25 kPa
INTERNAL FLOORS	1.5 kPa
FLOORS TO DECKS	2.0 kPa
GARAGES	3.0 kPa

G11. DESIGN WIND LOADS
IN ACCORDANCE WITH AS 1170.2-2002 FOR REGION A
Vr = 45m/sec TERRAIN CATEGORY 2

SITE PREPARATION

S1. THESE NOTES ARE TO BE READ IN CONJUNCTION WITH ANY GEOTECHNICAL REPORTS PREPARED FOR THE SITE BY A PRACTISING GETECHNICAL ENGINEER

S2. REMOVE ANY CONTAMINATED SOILS AS REQUIRED

S3. REMOVE ALL TREES, GRASS, TOPSOIL, LOOSE FILL WHICH INTERFERE WITH THE PROPOSED BUILDING PLAN AND PAVING AREAS OR BULK EXCAVATION.

S4. BULK EXCAVATE TO THE PROPOSED LEVELS, ALLOWING A MINIMUM BATTER OF 1H:1V IN SURFACE CLAYS/ FILLS AND NEAR VERTICAL (0.25H:1V) IN WEATHERED ROCK.

S5. REMOVE ALL EXISTING FOOTINGS OF EXISTING RESIDENCE AND OTHER STRUCTURES AND BACK FILL WITH ENGINEERED FILL

S6. PROOF ROLL THE SUB GRADE USING A 5 TONNE DEAD WEIGHT SMOOTH DRUM VIBRATING ROLLER THE FINAL PASS OF THE PROOF ROLLING SHOULD BE INSPECTED BY A GEOTECHNICAL ENGINEER TO DETECT ANY UNSUITABLE SUB GRADE AREAS. ANY UNSUITABLE AREAS SHOULD BE EXCAVATED TO A SOUND BASE AND THE EXCAVATED MATERIAL REPLACED WITH ENGINEERED FILL. DURING PROOF ROLLING CARES SHOULD BE TAKEN TO AVOID DAMAGE TO NEARBY STRUCTURES AND BURIED SERVICES BY VIBRATIONS TRANSMITTED BY THE ROLLER. IF NECESSARY VIBRATIONS SHOULD BE REDUCED OR STOPPED.

S7. ENGINEERED FILL SHOULD COMPRISE OF WELL GRADED GRANULAR MATERIALS, SUCH AS RIPPED ROCK OR CRUSHED SANDSTONE, FREE OF DELETERIOUS MATERIALS AND HAVING A MAXIMUM PARTICLE SIZE OF 75mm.
THE FILL SHOULD BE COMPACTED IN MAXIMUM 200mm LAYERS TO A MINIMUN DENSITY OF 98% OF STANDARD MAXIMUM DRY DENSITY. FOR FILLING SERVICE TRENCHES THE MAXIMUM LAYERS SHOULD BE REDUCED TO 100mm LOOSE THICKNESS.

S8. EXISTING EXCAVATED MATERIALS CAN BE REUSED AS ENGINEERED FILL SUBJECT TO THE APPROVAL OF THE GEOTECHNICAL ENGINEER.

S9. ALL ENGINEERED FILL IS TO BE TESTED IN ACCORDANCE WITH THE REQUIREMENTS SET UP BY THE GEOTECHNICAL ENGINEER

FOUNDATIONS

F1. ALL STRIP FOOTINGS FOUNDED ONTO VIRGIN CLAY STRATA HAVE BEEN DESIGNED BASED ON CLASS "M" CLASSIFICATION IN ACCORDANCE WITH AS2870 RESIDENTIAL SLABS AND FOOTING CODE

F2. PILE FOOTINGS FOUNDED ONTO BEDROCK STRATA HAVE BEEN DESIGNED BASED ON CLASS "A" CLASSIFICATION IN ACCORDANCE WITH AS2870 AND BEARING CAPACITY 1000kPa IN ACCORDANCE WITH MARTENS CONSULTING ENGINEER'S REPORT P0701714JR01

F3. ALL GROUND CONDITIONS ARE TO BE INSPECTED AND APPROVED BY A GEOTECHNICAL ENGINEER PRIOR TO DETERMINATION OF FOOTING SYSTEM ADOPTED FOR EACH PARTICULAR AREA

TIMBER

T1. ALL WORKMANSHIP AND MATERIALS TO BE IN ACCORDANCE WITH AS1684-1999 RESIDENTIAL TIMBER FRAMING CODE REQUIREMENTS

T2. ALL TIMBER TO BE MINIMUM STRESS GRADE F5, SEASONED U.N.O.

T3. NO TIMBER BEAM OR JOISTS TO BE NOTCHED UNLESS SPECIFIED BY THE ENGINEER.

T4. PROVIDE DOUBLE JOISTS AROUND OPENINGS AND UNDER WALLS ABOVE U.N.O.

T5. TRUSSES SHALL BE PRECAMBERED SPAN/300 AT MIDSPAN.

T6. ALL BOLTS SHALL BE M20 GALVANISED BLACK BOLTS U.N.O.

T7. TRUSS CONNECTIONS SHALL BE PROVIDED TO CARRY THE MEMBER FORCE SHOWN.

CONCRETE

C1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT SAA CODE AS 3600, WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.

C2. CONCRETE QUALITY:

ELEMENT	SLUMP (MAX)	MAX. AGG. SIZE	CEMENT TYPE	ADMIX.	CONCRETE GRADE
FOOTINGS	80	20mm	A	N/A	25 MPa
GROUND FLOOR SLAB	80	20mm	A	N/A	32 MPa
POOL, LANAI SLAB	80	20mm	A	N/A	40 MPa
BLOCK WALL/BRICK WALL GROUT INFILL TO WALLS	230	10mm	A	N/A	25 MPa
EXTERNAL DRIVEWAYS	80	20mm	A	N/A	32 MPa

SUSPENDED CONCRETE FLOORS :-
MIN. CEMENT CONTENT = 360 kg/m3 UNO.
MAXIMUM FLY ASH = 20% BY WEIGHT OF CEMENT, HOWEVER NO FLYASH IN SLABS ON GROUND.
MAX. PERHISSIBLE DRYING SHRINKAGE = 650 MICROSTRAIN AT 56 DAYS.

C3. CLEAR CONCRETE COVER IN mm TO REINFORCEMENT U.N.O. SHALL BE AS FOLLOWS:-

STRUCTURAL ELEMENT	REINFORCEMENT COVER			
	INTERNAL		EXTERNAL	
	TOP	BTM.	TOP	BTM.
FOOTINGS	-		50	
BLOCK RETAINING WALLS, BLOCKWALLS	30		65	
POOL LANAI FLOOR SLAB	20	20	45	
GARAGE FLOOR SLAB	20 (U.N.O.)	20	30	
SLABS ON GROUND, DRIVEWAYS	30	40	40	40

NOTES:
1. CONCRETE POURED OVER A MEMBRANE ON THE GROUND IS INCLUDED AS INTERNAL.
2. CONCRETE EXPOSED TO CORROSIVE VAPOURS, CORROSIVE GROUND WATER, SEA WATER OR SPRAY IS TO HAVE REINFORCEMENT COVER AS NOTED ON THE DRAWINGS.
3. CONCRETE REQUIRING A FIRE RESISTANCE RATING SHALL HAVE REINFORCEMENT COVER AS NOTED ON THE DRAWINGS.
4. EXTERNAL ABOVE GROUND ELEMENTS ARE CLASSIFIED IN NEAR COASTAL ENVIRONMENT.

C4. CONDUITS, PIPES, ETC, SHALL NOT BE PLACED IN THE CONCRETE COVER TO REINFORCEMENT AND NO HOLES OR CHASES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE ALLOWED WITHOUT THE PRIOR APPROVAL OF THE SUPERINTENDENT.

C5. CONCRETE SIZES DO NOT INCLUDE THE THICKNESS OF APPLIED FINISHES.

C6. THE DEPTH OF BEAMS IS GIVEN FIRST AND INCLUDES THE SLAB THICKNESS.

C7. CONSTRUCTION JOINTS, WHERE NOT SHOWN, SHALL BE LOCATED TO THE APPROVAL OF THE SUPERINTENDENT.

C8. FORMWORK SHALL REMAIN IN POSITION FOR THE TIME SPECIFIED. WHERE SLABS AND BEAMS ARE TO SUPPORT MASONRY OVER, FORMWORK AND PROPS MUST BE REMOVED PRIOR TO THE CONSTRUCTION OF MASONRY.

C9. ALL CONCRETE SHALL BE MECHANICALLY VIBRATED. THE VIBRATOR SHALL NOT BE USED TO SPREAD CONCRETE.

C10. CONCRETE SHALL BE CURED IN ACCORDANCE WITH AS 3600 WITH A PRODUCT COMPATIBLE WITH THE APPLIED FINISHES.
CURING COMPOUNDS SHALL COMPLY WITH AS 3799. PVA BASED CURING COMPOUNDS ARE NOT ACCEPTABLE

C11. REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY, IT IS NOT NECESSARILY SHOWN IN TRUE PROJECTION.

C12. WELDING OF REINFORCEMENT SHALL NOT BE PERMITTED UNLESS SHOWN ON THE STRUCTURAL DRAWINGS.

C13. SPLICES IN THE MAIN REINFORCEMENT SHALL BE MADE ONLY IN THE POSITIONS SHOWN.
SPLICES IN THE DISTRIBUTION REINFORCEMENT MAY BE POSITIONED AS NECESSARY WITH SPLICES OF SUFFICIENT LENGTH TO DEVELOP THE FULL STRENGTH OF THE BARS.
MINIMUM LAPS TO FABRIC SHALL BE TO OVER LAP TWO CROSS WIRES PLUS 50mm U.N.O.
REINFORCEMENT SHALL BE SECURELY TIED AT ALL LAPS AND INTERSECTIONS WITH 1.25mm BLACK ANNEALED WIRE. THE WRITTEN APPROVAL OF THE SUPERINTENDENT SHALL BE OBTAINED FOR OTHER SPLICES WHERE THE LAP LENGTH IS NOT SHOWN. IT SHALL DEVELOP THE FULL STRENGTH OF THE REINFORCEMENT.

C14. ALL UNSUPPORTED BARS SHALL BE TIED IN A TRANSVERSE DIRECTION WITH N12 - 300 U.N.O.

C15. REINFORCEMENT SHALL BE SUPPORTED ON APPROVED PLASTIC OR PLASTIC TIPPED WIRE STOOLS AT NOT MORE THAN 600 mm CENTRES BOTHWAYS IN SLABS AND AT 1000 mm CENTRES IN BEAMS.

C16. DENOTES MAIN WIRES OF RECTANGULAR FABRIC TO AS 4671.

DENOTES SQUARE FABRIC TO AS 4671

SL..... DENOTES GRADE 500 DEFORMED WIRE REINFORCING SQUARE FABRIC OF DUCTILITY CLASS L TO AS.4671.
RL..... DENOTES GRADE 500 DEFORMED WIRE REINFORCING RECTANGULAR FABRIC OF DUCTILITY CLASS L TO AS.4671.
R ..... DENOTES GRADE 250 ROUND BARS OF DUCTILITY CLASS N TO AS.4671
N ..... DENOTES GRADE 500 DEFORMED BARS OF DUCTILITY CLASS N TO AS.4671.
S ..... DENOTES GRADE 250 DEFORMED BARS OF DUCTILITY CLASS N TO AS.4671.

C17. FABRIC SHALL BE SUPPLIED IN FLAT SHEETS, ROLLS WILL NOT BE ACCEPTED

C18. TYPICAL REINFORCEMENT NOTATION:-
5N24 - 200 B INDICATES
5 ..... DENOTES NUMBER OF BARS REQUIRED
N ..... DENOTES GRADE OF REINFORCEMENT
24 ..... DENOTES BAR DIAMETER IN MILLIMETRES
200 ... DENOTES BAR SPACING IN MILLIMETRES
TYPICAL ABBREVIATIONS:-
B ..... DENOTES BARS IN BOTTOM LAYER
T ..... DENOTES BARS IN TOP LAYER
ALT.... DENOTES BARS ALTERNATING
NF .... DENOTES BARS IN NEAR FACE
FF .... DENOTES BARS IN FAR FACE
EF .... DENOTES BARS IN EACH FACE

C19. FOR SLAB FALLS, CHAMFERS, REGLETS, DRIP GROOVES, ETC., REFER TO THE ARCHITECT'S DRAWINGS.

C20. LAP LENGTHS FOR DEFORMED BARS AS FOLLOWS:

BAR TYPE AND SIZE	VERTICAL BARS	HORIZONTAL BARS WITH MORE THAN 300mm OF CONCRETE BELOW BAR	OTHER LOCATIONS	90° COG LENGTH
N12	500	550	500	200
N16	700	800	700	200
N20	1000	1250	1000	250
N24	1200	1500	1200	300
N28	1400	1750	1400	350
N32	1600	1900	1600	400
N36	1700	2200	1700	450

C21.

STRIPPING OF FORMWORK FROM REINFORCED SLABS CONTINUOUS OVER FORMWORK SUPPORTS	
AVERAGE AMBIENT TEMPERATURE OVER THE PERIOD (T) °C	PERIOD OF TIME BEFORE STRIPPING NORMAL-CLASS WITH SPECIFIED EARLY-AGE STRENGTH DAYS
T>20	4
20 ≥ T > 12	6
12 ≥ T > 5	8

REMOVAL OF FORMWORK SUPPORTS FROM SLABS AND BEAMS NOT SUPPORTING STRUCTURES ABOVE	
AVERAGE AMBIENT TEMPERATURE OVER THE PERIOD (T) °C	PERIOD OF TIME BEFORE REMOVAL OF ALL FORMWORK SUPPORTS FROM REINFORCED MEMBERS DAYS
T>20	12
20 ≥ T > 12	18
12 ≥ T > 5	24

MEMBERS SUBJECT TO EXPOSURE CLASSIFICATIONS B1, B2 OR C SHALL BE INITIALLY CURED CONTINUOUSLY FOR AT LEAST 7 DAYS UNDER AMBIENT CONDITIONS, OR CURED BY ACCELERATED METHODS SO THAT THE AVERAGE COMPRESSIVE STRENGTH OF THE CONCRETE AT THE COMPLETION OF CURING IS NOT LESS THAN 20 MPa FOR EXPOSURE CLSSIFICATION B1 , 25 MPa FOR EXPOSURE CLASSIFICATIONS B2, 32 MPa FOR EXPOSURE CLASSIFICATION C AND 40 MPa for 65 MPa CONCRETE.

MEMBERS SUBJECT TO EXPOSURE CLASSIFICATIONS A1, A2 SHALL BE INITIALLY CURED CONTINUOUSLY FOR AT LEAST THREE DAYS UNDER AMBIENT CONDITIONS, OR CURED BY ACCELERATED METHODS, SO THAT AVERAGE COMPRESSIVE STRENGTH OF THE CONCRETE AT THE COMPLETION OF CURING IS NOT LESS THAN 15 MPa .

BLOCKWORK AND BRICKWORK

B1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT CODE AS 3700 EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS. REFER TO SPECIAL WOOLLAHRA COUNCIL BLOCKWORK REQUIREMENTS.

B2. STRENGTHS OF BRICKS, CLASS OF BLOCKS AND TYPE OF MORTAR (PORTLAND CEMENT:HYDRATED LIME:SAND) SHALL BE AS FOLLOWS:

ELEMENT	MATERIAL	STRENGTH OR CLASS (C)	MORTAR TYPE CEMENT:LIME:SAND
BLOCK WALLS	BLOCKS	GRADE 20 (f'uc = 20MPa) CONFORMING TO AS/NZS 4455	1:1:6 FOR BLOCKWORK GROUT INFILL REFER TO CONC. QUALITY AS REQUIRED
BRICKWORK	CLAY BRICKS	f'uc = 25MPa CONFORMING TO AS/NZS 4455	1:1:6 FOR BRICKWORK GROUT INFILL REFER TO CONC. QUALITY AS REQUIRED

NOTE:
1. THE CHARACTERISTIC EXPANSION OF BRICKWORK SHALL NOT EXCEED 0.8mm/m.
2. LINEAR DRYING SHRINKAGE LIMIT 0.08%.

B3. ALL LOADBEARING BLOCKS, WHEN SUPPORTING A CONCRETE SLAB OR BEAM SHALL HAVE A LAYER OF MORTAR PLACED ON TOP AND TROWELLED SMOOTH WITH TWO (2) SHEETS OF 1.6mm GALVANISED IRON SEPARATED BY GRAPHITE U.N.O. UNDER THE CONCRETE.
THE TOP TWO (2) COURSES OF BLOCKS SHALL BE LAID WITH BLOCK REINFORCEMENT IN THE JOINTS.

B4. WHEREVER BLOCKWALLS OR BRICKWALLS ARE BUILT OFF CONCRETE SLABS, WITH THE EXCEPTION OF THE EXTERNAL OUTER SKIN OF CAVITY WALLS, THEY SHALL BE LAID ON ALCOR TO PERMIT FREE MOVEMENT OF THE SLAB IN RELATION TO THE BLOCKWORK.

B5. WHERE WALLS ARE NON-LOADBEARING, AT EITHER HORIZONTAL OR VERTICAL FACES, THEY SHALL BE SEPARATED BY 10mm COMPRESSIBLE CORK FILLER.

B6. NO HOLES OR CHASES SHALL BE CUT INTO LOADBEARING BLOCKWORK OR BLOCKWORK WITHOUT THE PRIOR APPROVAL OF THE SUPERINTENDENT.

B7. LOADBEARING BLOCKWORK IS DENOTED THUS:

PLAN

PROVIDE TWO (2) LAYERS OF GALVANISED IRON SEPARATED BY GRAPHITE BETWEEN SLABS AND BRICKWORK AS SPECIFIED IN B3.

B8. ALL CONCRETE BLOCK WALLS SHALL BE BUILT TO A CONCRETE BLOCK GAUGE SUCH THAT BLOCK JOINT DIMENSIONS ARE MULTIPLES OF 100mm IN PLAN USING STRETCHER BOND U.N.O.

B9. THE LOWER CONCRETE BLOCK COURSE SHALL BE STANDARD CLEAN-OUT BLOCKS FOR CORE FILLED BLOCKWORK.

B10. WHEREVER INTERNAL BRICK OR BLOCK WALLS ABUT CONCRETE WALLS OR COLUMNS, PROVIDE GALVANISED CRIMPED FRAME TIES AT FOUR (4) COURSE VERTICAL CENTRES FOR BRICK AND TWO (2) COURSES FOR BLOCK. USE MASONRY FLEXIBLE ANCHORS (MFA) OR EQUIVALENT MFA 3/3. PROVIDE VERTICAL JOINT SEPARATION AND COMPRESSIBLE CORK OR ABELFLEX.

B11. EXTERNAL CAVITY TIES SHALL BE PROVIDED AT SPACINGS IN ACCORDANCE WITH THE SAA CODE CLAUSE 3.8 AND SHALL BE A MINIMUM 3mm GAUGE WITH 65mm MINIMUM EMBEDMENT INTO EACH SKIN. PROVIDE 75mm EMBEDMENT FOR CAVITY WIDTHS GREATER THAN 80mm.

B12. ALL BRICK AND BLOCK WALLS SHALL BE LAID WITH BRICK REINFORCEMENT PLACED IN THE FIRST, THIRD AND EVERY ALTERNATE COURSE THEREAFTER. REINFORCEMENT WILL CONSISTS OF GALVANISED MASONRY REINFORCEMENT. REFER TO ARCHITECTS SPECIFICATION AND CITY OF CANADA BAY COUNCIL SPECIAL REQUIREMENTS.

B13. AT BLOCK JOINTS PROVIDE MFA 3/3 VERTICAL EXPANSION JOINT TIES AT FOUR COURSES VERTICAL OR EQUIVALENT.

B14. WHEREVER NON LOAD BEARING BRICK OR BLOCK WALLS ABUT BEAMS OR SLABS OVER, PROVIDE GALVANISED MET 4-2 HEAD RESTRAINT TIES AT EVERY 4TH. PERPEND FOR BRICKWORK AND EVERY 2ND. PERPEND FOR BLOCKWORK.

B15. (CITY OF CANADA BAY COUNCIL) ALL REINFORCEMENT IN BLOCKWALLS SHALL BE GALVANISED.

B16. ALL WALL TIES, LINTELS, SHELF ANGLES, CONNECTIONS AND ACCESSORIES SHALL CONFORM TO AS.2699

STEEL LINTEL SCHEDULE

OPENING	SUPPORTNG ROOF LOADS	SUPPORTING ONLY MASONRY
900	100x8 BAR	75x8 BAR
900 TO 1501	90x90x10 EA	75x75x8 EA
1501 TO 2400	150x90x10 UA	127x75x8 UA
2401 TO 3600	150UB18	150x90x10 UA

STEEL LINTEL TABLE LIMITATIONS

- NO POINT LOADS FROM ROOF BEAMS
- MAXIMUM BRICK COURSES ABOVE LINTEL (18 COURSES)
- ALL LINTELS TO BE HOT DIPPED GALVANISED

CONCRETE LINTELS

- MINIMUM BRICK COURSES ABOVE LINTELS (2 COURSES)
- CONCRETE LINTELS TO BE "ULTRA FLOOR LINTELS" OR EQUIVALENT
- FOR LINTELS SCHEDULE REFER TO MANUFACTURER'S SPECIFICATIONS
- LINTELS TO BE INSTALLED TO MANUFACTURER'S SPECIFICATIONS
- FIRE RATING OF 89x105 LINTEL 60/NA/NA
- FIRE RATING OF 170x105 LINTEL 120/NA/NA
- NOTE:THAT FIRE RATING REQUIREMENTS MAY GOVERN LINTEL SELECTION, REGARDLESS OF CLEAR OPENING DIMENSIONS
- PROVIDE TEMPORARY PROPPING TO CONCRETE LINTELS DURING CONCRETE POURING OF SLABS

BLOCK RETAINING WALLS

RW1. VERTICAL RODS FROM BASE ARE TO BE FIXED USING TEMPLATES TO ENSURE ACCURATE SPACING AND POSITIONING.

RW2. CONCRETE BLOCKS TO BE GRADE 15 IN ACCORDANCE WITH AS/NZS 4455.

RW3. MORTAR 1:1:6 CEMENT:LIME:FINE AGGREGATE, SITE MIXED TO HAVE A COMPRESSIVE STRENGTH AT 12 DAYS OF 11 MPa.

RW4. ALL HOLES TO BE CLEANED OF MORTAR AT END OF EACH DAY.

RW5. GROUT : F'c = 25 MPa
SLUMP = 230 MAXIMUM
AGGREGATE = 10mm.

RW6. ALL CORE HOLES TO BE VIBRATED TO ENSURE COMPACTION, USING A DEFORMED RODDING BAR.

RW7. FILL CORES TO 1500 MAX. HEIGHT IN ANY ONE POUR. STOP POUR 50 BELOW TOP OF BLOCK. FINAL LEVELS FLUSH WITH TOP OF BLOCK.

RW8. PROVIDE EXPANSION JOINTS AS DETAILED, MAXIMUM SPACING 12.0m

RW9. DO NOT BACKFILL UNTIL RESTRAINING SLAB OVER A BASEMENT FLOOR SLAB HAVE BEEN CAST & CURED. BACKFILLING TO BE BLUEMETAL AS DETAILED, WITH PROVISION OF CORE DRAIN, REFER TO HYD. ENGINEER'S DETAILS FOR SUBSOIL DRAINAGE REQUIREMENT.

RW10. TANKING, SEALING AND DRAINAGE TO ARCHITECTS DETAILS.

STRUCTURAL STEELWORK

SS1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT SAA CODES AS 4100 AND AS 1554 EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.

SS2. ALL STEEL SHALL BE IN ACCORDANCE WITH:
AS 1131 - DIMENSIONS OF HOT ROLLED STRUCTURAL STEEL SECTIONS
AS 1163 - FOR RHS /CHS SECTIONS
AS 1397 - FOR PURLINS / GIRTS AND COLD FORMED SECTIONS
AS 1554 - STRUCTURAL STEEL WELDING
AS/NZS 2312:1994 - GUIDE TO THE PROTECTION OF IRON AND STEEL AGAINST EXTERIOR ATMOSPHERIC CORROSION
AS 3678 - FOR HOT ROLLED STRUCTURAL STEEL PLATES & SLABS
AS 3679 - FOR HOT ROLLED BARS & SECTIONS
AS 4100 - SAA STEEL STRUCTURES CODE

SS3. WHERE CONNECTIONS ARE NOT DETAILED, THEY SHALL BE PROVIDED WITH A MINIMUM 10 PLATE CLEAT WITH 2 - M20 8.8/S BOLTS. BOLT GRADE SHALL BE 8.8/S U.N.O. THREADS EXCLUDED

SS4. THE DISTANCE BETWEEN CENTRES OF FASTENER HOLES AND THE MINIMUM DISTANCE FROM THE CENTRE OF A FASTENER TO THE EDGE OF A PLATE OR FLANGE OF A ROLLED SECTION SHALL COMPLY WITH AS 4100 U.N.O.

SS5. ALL WELDS SHALL BE 6mm CONTINUOUS FILLET WELDS (6 C.F.W.) U.N.O. AND WILL BE CATEGORY SP TO AS 1554.1
ALL BOLTS SHALL BE 20mm DIAMETER U.N.O. NO BOLT THREADS SHALL BE PERMITTED WITHIN THE BEARING LENGTH. ALL GUSSET PLATES SHALL BE 10mm THICK U.N.O.

SS6. BUTT WELDS WHERE INDICATED "F.S.B.W." ON THE DRAWINGS, SHALL BE COMPLETE PENETRATION BUTT WELDS AS DEFINED IN AS 1554.1

SS7. HIGH STRENGTH BOLTS, DENOTED 8.8 GRADE, SHALL BE TIGHTENED TO THE CORRECT TENSION USING APPROVED LOAD INDICATING WASHERS.
S DENOTES SNUG TIGHT GRADE 4.6 OR 8.8 BOLTS.
TB DENOTES BEARING MODE. SURFACE MAY BE PAINTED GRADE 8.8 BOLTS.
TF DENOTES FRICTION GRIP MODE SURFACES MUST BE UNPAINTED GRADE 8.8 BOLTS.

SS8. THE CONTRACTOR SHALL PROVIDE ALL CLEATS AND DRILL ALL HOLES NECESSARY FOR FIXING STEEL TO STEEL AND TIMBER TO STEEL WHETHER OR NOT THEY ARE DETAILED ON THE DRAWINGS.

SS9. STEELWORK SHALL HAVE THE FOLLOWING SURFACE TREATMENT IN ACCORDANCE WITH THE SPECIFICATION.

ELEMENTS	SURFACE CLEANING	PRIMING
ALL U.N.O.	ABRASIVE BLAST CLEAN TO CLASS 2.5, TO AS.1627	INORGANIC ZINC SILICATE PAINT TO 75um THICKNESS TO AS.2105
ALL GALVANISED STEELWORK	CAUSTIC CLEAN AND ACID PICKLING TO AS.1659	HOT DIP GALVANISING SYSTEM G21.P IN ACCORDANCE WITH AS.4680, AS.4750 (INT), AS.4751 (INT), AS.4791 OR AS.4792 AS APPLICABLE.
ALL BOLTS	-	HOT DIP GALVANISED TO AS.1214
CONCRETE ENCASED STEELWORK AND FIRE TREATED STEELWORK	-	UNPAINTED

SS10. THE CONTRACTOR SHALL PREPARE AND SUBMIT FOUR (4) COPIES OF ALL WORKSHOP DRAWINGS TO THE SUPERINTENDENT FOR APPROVAL. FABRICATION SHALL NOT COMMENCE UNTIL ALL APPROVALS HAVE BEEN OBTAINED.

SS11. PROVIDE TEMPORARY BRACING TO STRUCTURE TO ENSURE STABILITY DURING ERECTION AS PER NOTE G3.

SS12. ALL STRUCTURAL STEEL (MILD STEEL) WHICH IS PERMANENTLY EXPOSED TO THE ATMOSPHERE SHALL BE HOT DIPPED GALVANISED IN ACCORDANCE WITH NOTE SS9.

ENGINEERED TIMBER ROOF TRUSSES

T1. THE DESIGN OF ENGINEERED ROOF TRUSSES SHALL BE CARRIED OUT BY A PRACTISING STRUCTURAL ENGINEER AND THE FABRICATION BY AN APPROVED TIMBER TRUSS CONTRACTOR.

T2. ALL TRUSS DESIGNS SHALL BE IN ACCORDANCE WITH AS.1170, AS.1720 AND AS.1684 IN ADDITION TO THE DOCUMENTED AND CODE REQUIRED LOADS, THE TRUSSES SHALL BE DESIGNED FOR:
(i) REGIONAL WIND VELOCITY OF 41m/sec.
IMPORTANCE FACTOR OF 1.0
TERRAIN CATEGORY 3
(ii) CEILING LOADS OF 15 kg/m2.
(iii) HOT WATER SERVICES AS SPEC. BY ARCHITECT.
(iv) ROOF TILES.

T3. THE TRUSSES SHALL BE AT 600mm MAXIMUM CENTRES U.N.O.

T4. MINIMUM STRENGTH GRADE S3 TIMBER GRADE SHALL BE F5 UNLESS APPROVED OTHERWISE. THE TIMBER GRADE AND TYPE MAY BE VARIED TO SUIT AVAILABILITY AND PREFERENCE WITH APPROVAL OF THE ENGINEER. MEMBER SIZES AND WEB MEMBER ARRANGEMENT MAY BE VARIED TO SUIT FABRICATOR WITH APPROVAL OF THE ENGINEER.

T5. NO DEFECTS IN THE TIMBER WILL BE ALLOWED IN OVERHANGING CHORDS AND AT CONNECTOR PLATES.

T6. TRUSSES SHALL BE ERECTED STRAIGHT AND PLUMB TO THE FOLLOWING TOLERANCES. THE OVERALL BOW IN ANY CHORD SHALL NOT EXCEED THE LESSER OF L/200 OR 50mm, WHERE L IS THE CHORD LENGTH. TRUSSES TO BE PLUMB TO WITHIN 10 HORIZONTALLY FOR EVERY 1000 IN HEIGHT.

T7. UNLESS NOTED OTHERWISE ALL BATTENS SUPPORTING METAL DECK ROOF SHALL BE FIXED TO TOP CHORDS WITH NAILED CONNECTOR. TWO CONNECTORS SHALL BE USED TO FIX TRUSSES TO WALL PLATES.

T8. NOMINAL ROOF BRACING TO BE CROSSED GALVANISED 32x1.2 BUILDING STRAP OR SPEEDBRACE NAILED TO EACH TOP CHORD AND TURNED DOWN AND NAILED AT ENDS. ALL ROOF BRACING, BOTH TEMPORARY AND PERMANENT, NECESSARY TO ENSURE SAFETY DURING ERECTION AND STRUCTURAL ADEQUACY OF THE COMPLETED STRUCTURE SHALL BE PROVIDED BY THE FABRICATOR AND AND DETAILS FOR INSULATION BY THE BUILDER SHALL BE SHOWN ON THE SHOP DRAWINGS.

T9. THE FABRICATOR SHALL PREPARE AND SUBMIT 3 COPIES OF SHOP DRAWINGS TO INCLUDE BRACING AND TRUSS TO WALL PLATE CONNECTIONS.

T10. NOTE ALL TIMBER MEMBERS AND AND THEIR CONNECTIONS TO BE IN ACCORDANCE WITH TIMBER FRAMING CODE 1684-1992.

T11. ROOF TRUSSES (IF TIMBER) ARE TO BE FIXED TO TIMBER WALL/NAILING PLATE WITH 2 - TRIP-L-TRIP CONNECTORS TO EACH END OF TRUSSES. TIMBER NAILING PLATES TO BE GUN-FIXED TO STEEL MEMBERS.

WARNING
The stamping of this plan by Insight Building Certifiers Pty Ltd does not relieve:
- The applicant's responsibility to obtain approval from Sydney Water or other utilities.
- The Structural Engineer of their responsibility to ensure the structural adequacy of this project.
- The Applicant, Structural Engineer or other Professional of their responsibility to ensure these stamped details are consistent with the issued Construction Certificate Architectural Details.

Issue	Reason for Issue	Drawn	Sign & Date Design Review	Sign & Date Verification
B	CC ISSUE AMENDMENT	BS	25-02-09	
A	CONSTRUCTION CERTIFICATE	AP	31-10-08	
1	PRELIMINARY	AP	05-09-08	

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Client: CRAIG PERKINS INVEST. PTY LTD

Project: ALTERATION TO RESIDENCE
22 CHILTERN ROAD
INGLESIDE NSW

Title: GENERAL NOTES

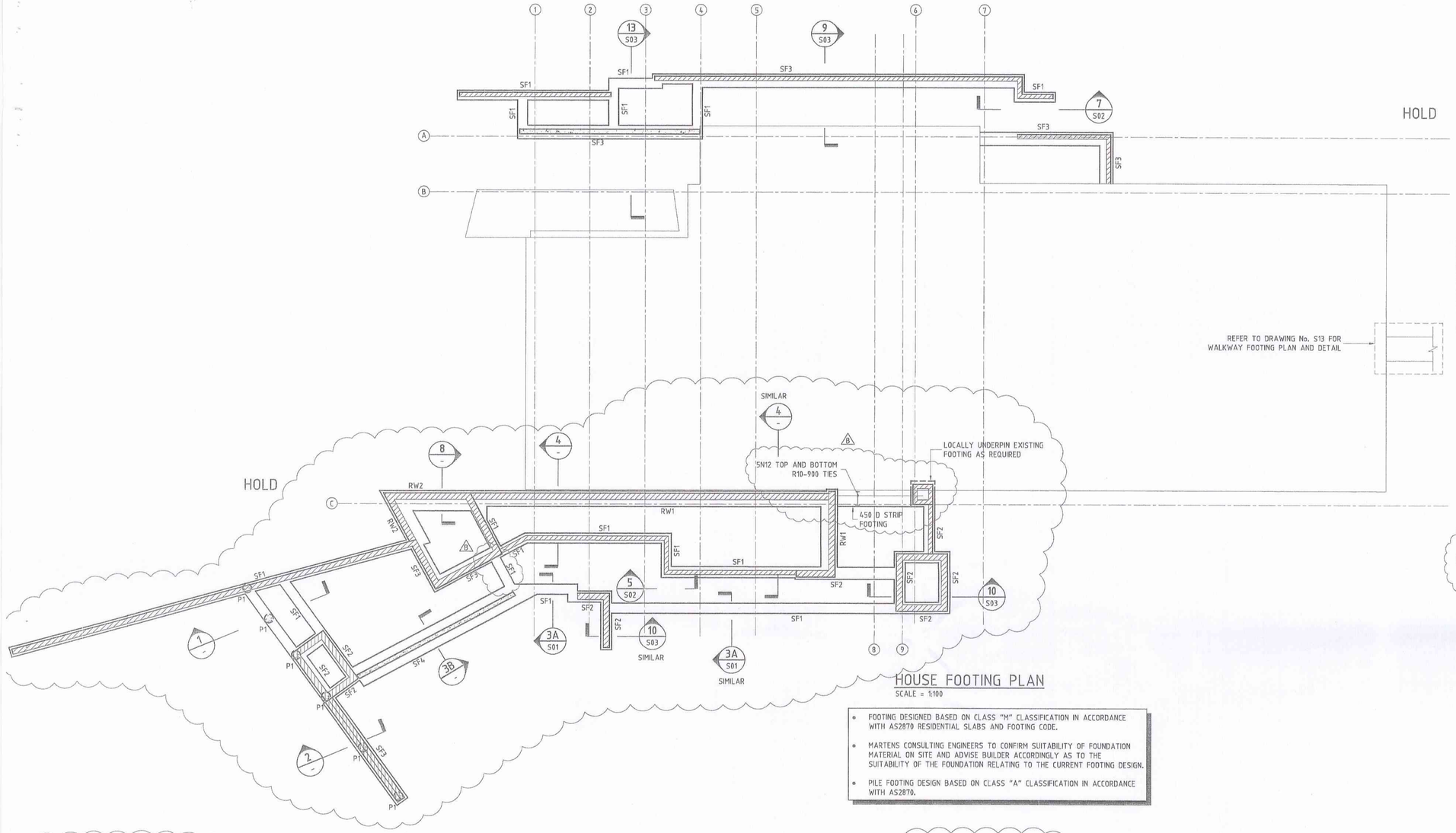
THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION UNLESS ENDORSED BELOW

COUNCIL COPY

Date of release	Respective Principal's Signature	Issue
25/02/09	BERNIE BENVENUTI	

scales	job no.	drg no.	issue
NA	1226	S-00	B

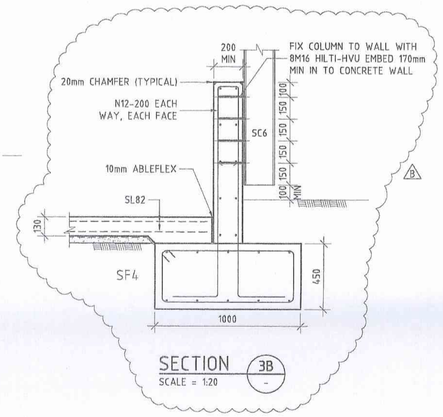
REFER TO GENERAL NOTES
ON DRAWING No. S-0



HOUSE FOOTING PLAN
SCALE = 1:100

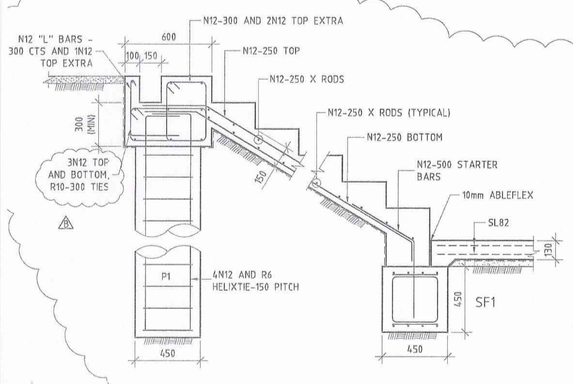
FOOTING MEMBER SCHEDULE		
MARK	SIZE	REINFORCEMENT
PC1	600 W x 400 D (MIN)	CONCRETE PILE CAP WITH 3N12 TOP AND BOTTOM, R10-300 TIES
PC2	750 SQx 400 D (MIN)	CONCRETE PILE CAP WITH 4N12 "U" BARS TOP AND BOTTOM EACH WAY
SF1	450 SQ	STRIP FOOTING WITH 4L11TM TOP AND BOTTOM, R10-900 TIES
SF2	500 W x 450 D (B)	STRIP FOOTING WITH 5N12 TOP AND BOTTOM, R10-900 TIES
SF3	600 W x 450 D	STRIP FOOTING WITH 5N12 TOP AND BOTTOM, R10-900 TIES
SF4	1000 W x 450 D	STRIP FOOTING WITH 5N12 TOP AND BOTTOM, N12-400 (B)
P1	400 DIAMETER	REINFORCED CONCRETE PILE WITH 4N12 BARS, R6 HELIXTIE - 150 PITCH

* FOOTING TYPES APPLY TO HOUSE CONSTRUCTION ONLY (B)



SECTION 3B
SCALE = 1:20

* FOOTING DESIGNED BASED ON CLASS "M" CLASSIFICATION IN ACCORDANCE WITH AS2870 RESIDENTIAL SLABS AND FOOTING CODE.
* MARTENS CONSULTING ENGINEERS TO CONFIRM SUITABILITY OF FOUNDATION MATERIAL ON SITE AND ADVISE BUILDER ACCORDINGLY AS TO THE SUITABILITY OF THE FOUNDATION RELATING TO THE CURRENT FOOTING DESIGN.
* PILE FOOTING DESIGN BASED ON CLASS "A" CLASSIFICATION IN ACCORDANCE WITH AS2870.



SECTION 1
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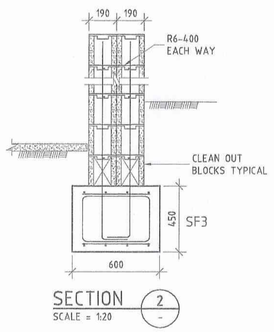

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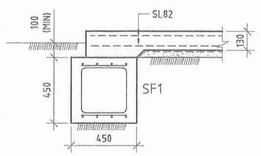

SECTION 3A
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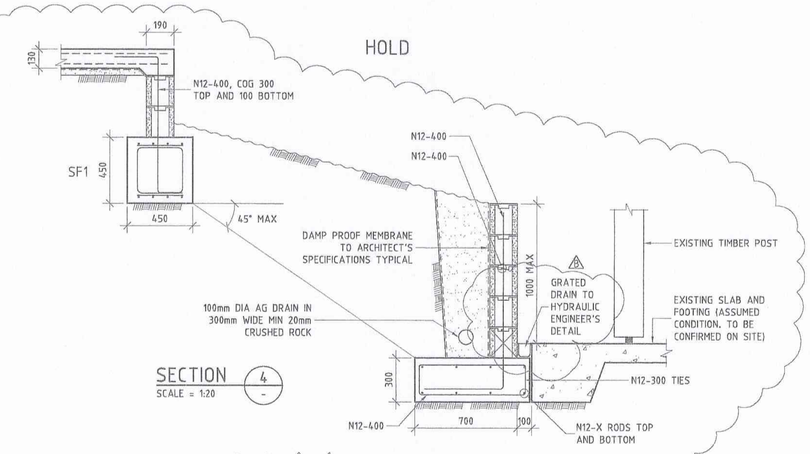

SECTION 4
SCALE = 1:20

RW1 DETAIL TYPICAL
SCALE = 1:20

Issue	Reason for Issue	Drawn	Sign & Date Design Review	Sign & Date Verification
B	CC ISSUE AMMENDMENTS	AP	25-02-09	
A	CONSTRUCTION CERTIFICATE	AP	31-10-08	
3	ISSUED FOR COSTING ONLY	AP	24-10-08	
2	PRELIMINARY	AP	22-10-08	
1	PRELIMINARY	AP	22-09-08	

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Client: CRAIG PERKINS INVEST. PTY.LTD

Project: ALTERATION TO RESIDENCE
22 CHILTERN ROAD
INGLESIDE NSW

Title: HOUSE FOOTING PLAN

THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION UNLESS ENDORSED BELOW

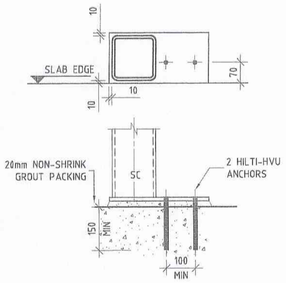
Date of release	Responsible Principal's Signature	Issue
29/09/09	BENVENUTI NPER	

scales	job no.	drg no.	issue
1:100, 1:20	1226	S-01	B

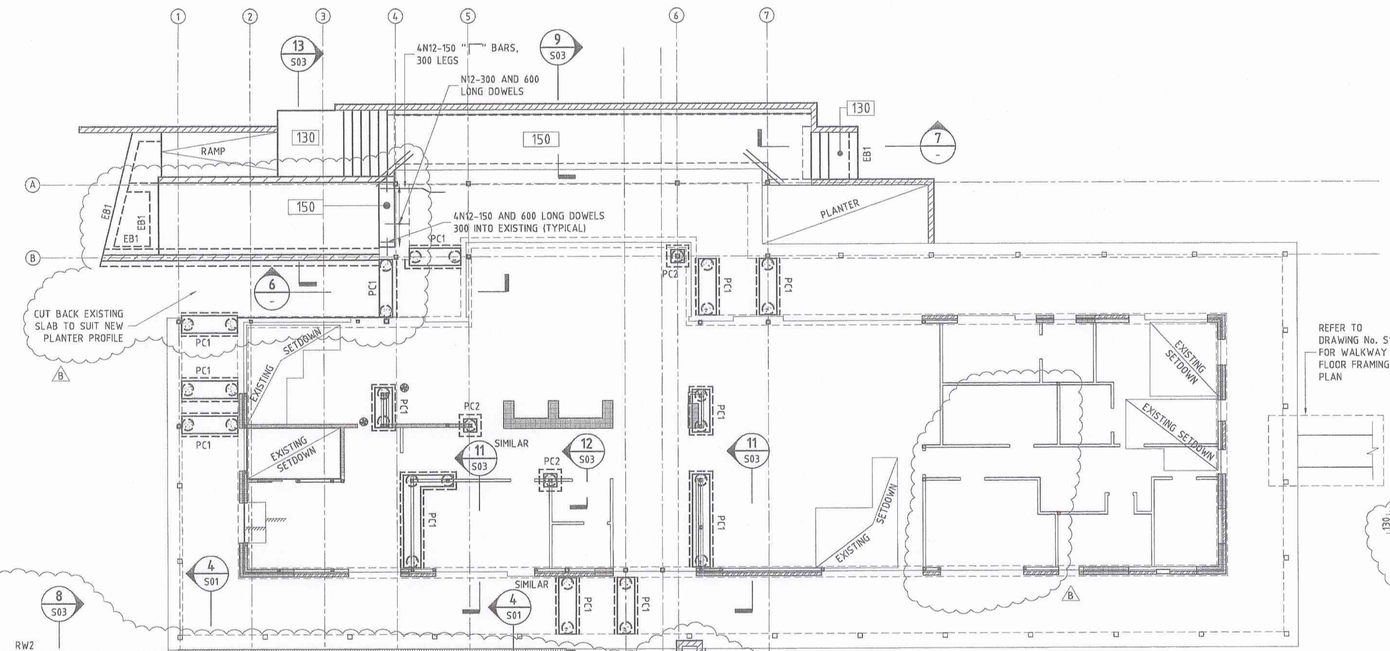
REFER TO GENERAL NOTES ON DRAWING No. S-0

FOOTING MEMBER SCHEDULE

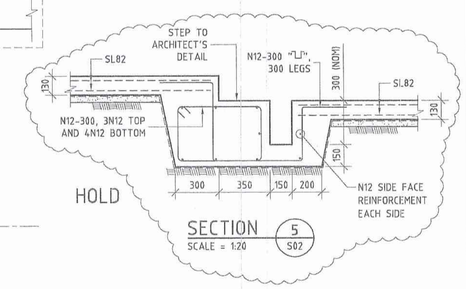
MARK	SIZE	REINFORCEMENT
PC1	600 W x 400 D (MIN)	CONCRETE PILE CAP WITH 3N12 TOP AND BOTTOM, R10-300 TIES
PC2	750 SQx 400 D (MIN)	CONCRETE PILE CAP WITH 4N12 "U" BARS TOP AND BOTTOM EACH WAY
SF1	450 SQ	STRIP FOOTING WITH 4L11TM TOP AND BOTTOM, R10-900 TIES
SF2	500 W x 400 D	STRIP FOOTING WITH 5N12 TOP AND BOTTOM, R10-900 TIES
SF3	600 W x 450 D	STRIP FOOTING WITH 5N12 TOP AND BOTTOM, R10-900 TIES
SF4	1000 W x 450 D	STRIP FOOTING WITH 5N12 TOP AND BOTTOM, N12-400 TIES, B
P1	400 DIAMETER	REINFORCED CONCRETE PILE WITH 4N12 BARS, R6 HELIXTIE - 150 PITCH SOCKET PILES 600 INTO BEDROCK TYPICAL
EB1	300 W x 400 D	EDGE BEAM WITH 2N12 TOP AND BOTTOM, R6-600 TIES



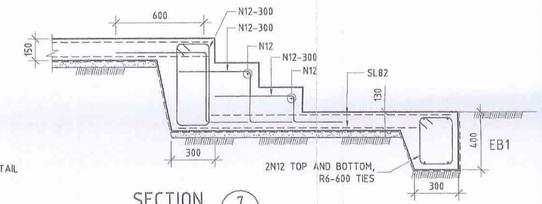
TYPE "D" BASE PLATE TYPICAL DETAIL
SCALE = 1:10



HOUSE SLAB PLAN
SCALE = 1:100



SECTION 5 S02
SCALE = 1:20

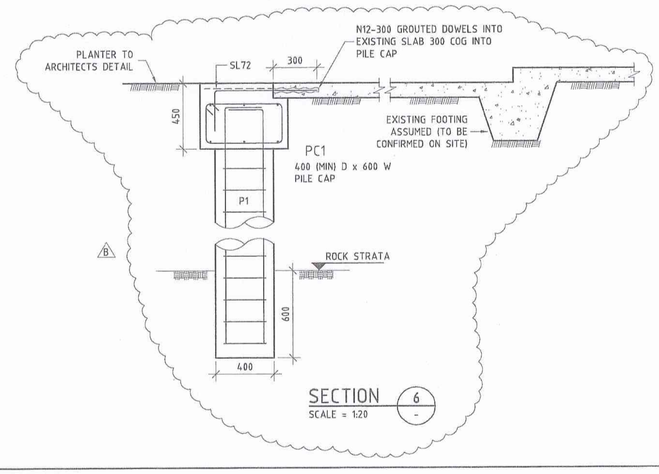


SECTION 7
SCALE = 1:20

- NEW SLAB TO BE 130mm THICK, SL82 TOP AND BOTTOM UNO, ON 0.2mm POLYTHENE DAMP PROOF MEMBRANE OVER 20mm NOMINAL LEVELLING SAND.
- 130 - DENOTES SLAB THICHNESS ON PLAN.
- // - 2N12 TRIMMERS AT SLAB RE-ENTRANT CORNERS (TYPICAL). PLACE BARS 40mm FROM CORNER AND 30mm APART.
- BUILDER TO MAINTAIN STABILITY OF EXISTING WALLS DURING DEMOLITION OF ROOF AND WALLS, AND MAKE ADEQUATE PROVISION FOR DISTRIBUTION OF LOADS IMPLIED BY HEAVY MACHINERY ON EXISTING HOUSE AND VERANDAH SLABS, TO ENSURE INTEGRITY OF SLAB IS MAINTAINED.
- EXISTING SETDOWNS TO BE FILLED AS REQUIRED WITH MASTERTOP 540 (ZEMTEC) SELF LEVELLING CEMENTITIOUS FLOOR OVERLAY, TO MANUFACTURER'S AND ARCHITECT'S SPECIFICATION.
- ⊛ - DENOTES PILE TO HAVE 1000mm SOCKET INTO BEDROCK.
- POND CONCRETE TO BE 40MPa CHARACTERISTIC 28 DAY STRENGTH. 45mm COVER TO REINFORCEMENT TYPICAL

REFER SCHEDULE ON DRAWING No. S04 FOR COLUMN BASE PLATE THICKNESS AND ANCHOR SIZES (TYPICAL) B

TYPICAL SECTION THROUGH LANDSCAPING STEPS
SCALE = 1:20



SECTION 6
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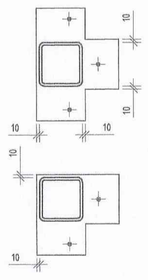

TYPE "B" BASE PLATE TYPICAL DETAIL
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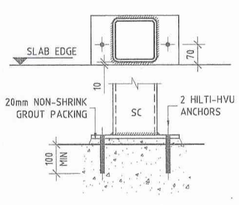

TYPE "A" BASE PLATE TYPICAL DETAIL
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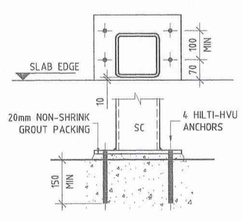

TYPE "C" BASE PLATE TYPICAL DETAIL
SCALE = 1:10

Issue	Reason for Issue	Drawn	Sign & Date Design Review	Sign & Date Verification
B	CC ISSUE AMMENDMENTS	AP	25-02-09	
A	CONSTRUCTION CERTIFICATE	AP	31-10-08	
3	ISSUED FOR COSTING ONLY	AP	24-10-08	
2	PRELIMINARY	AP	22-10-08	
1	PRELIMINARY	AP	22-09-08	

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Client: CRAIG PERKINS INVEST. PTY.LTD

Project: ALTERATION TO RESIDENCE
22 CHILTERN ROAD
INGLESIDE NSW

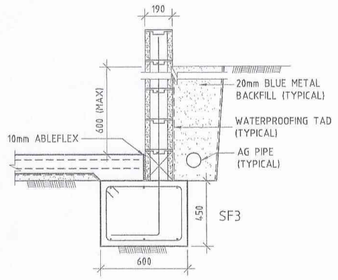
Title: HOUSE SLAB PLAN

THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION UNLESS ENDORSED BELOW

Date of release	Responsible Principal's Signature	Issue
25/02/09	BENVENUTI PER	

scales	job no.	drg no.	issue
1:100, 1:20	1226	S-02	B

REFER TO GENERAL NOTES
ON DRAWING No. S-0



TYPICAL PLANTER DETAIL
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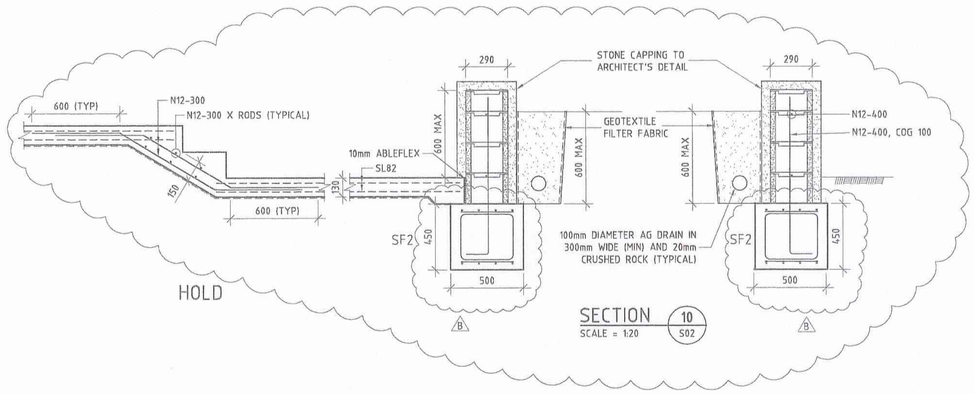

SECTION 10 S02
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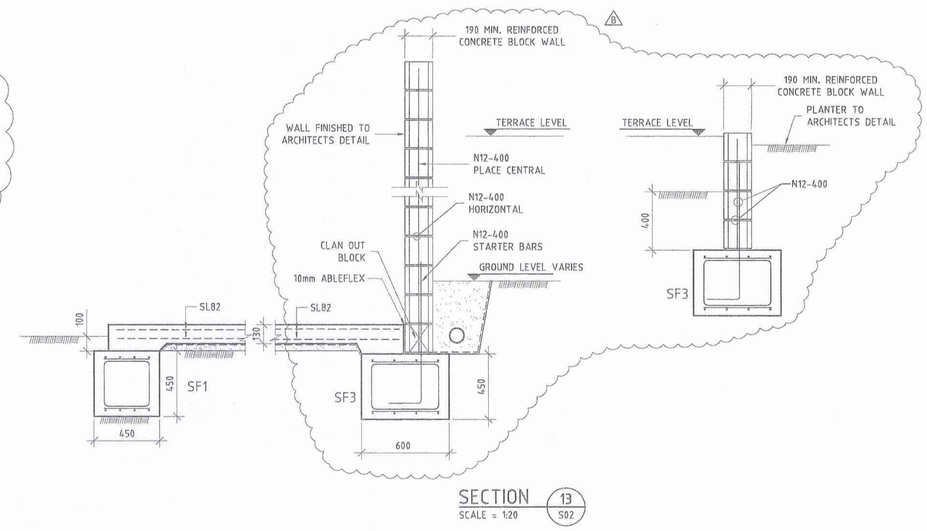
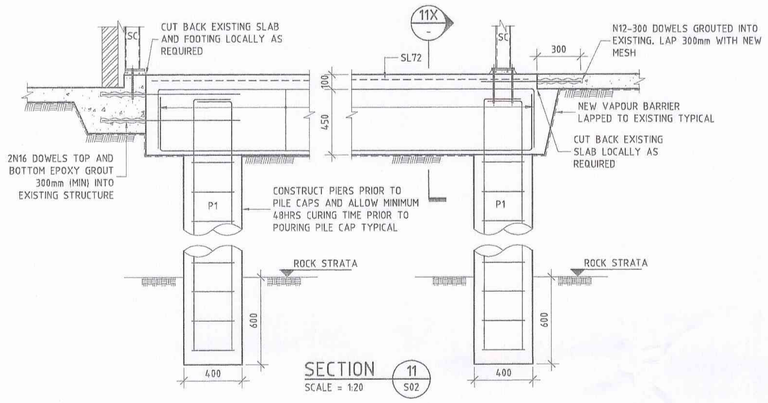


SECTION 13 S02
SCALE = 1:20

RW2 SCHEDULE				
'H'	'B'	WALL TYPE	'V'- BARS	'X'- BARS
1000	900	200	N12-400	N12-400
1400	1050	200	N12-400	N12-400
1800	1300	200	N16-400	N16-400
2200	1450	200 AND 300	N16-400	N16-400
3000	2050	200 AND 300	N20-400	N20-400
3400	2200	200 AND 300	N24-400	N24-400



SECTION 11 S02
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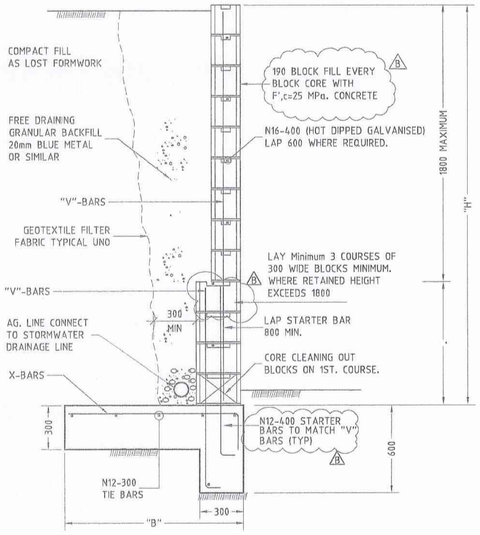

SECTION 8 S02
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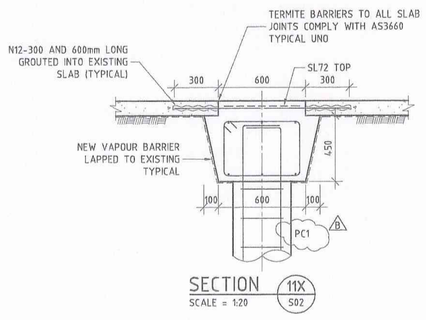

SECTION 11X S02
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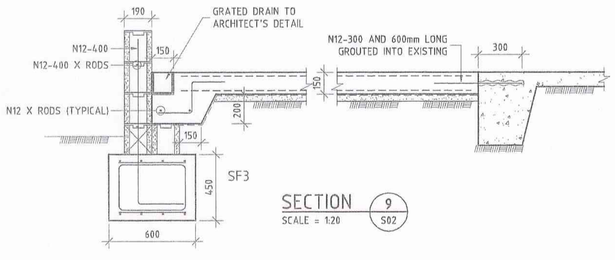

SECTION 9 S02
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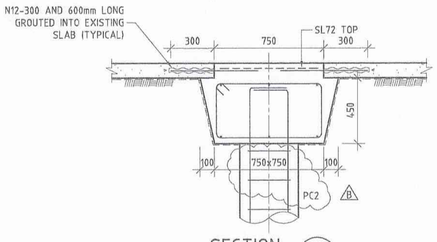

SECTION 12 S02
SCALE = 1:20

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B	CC ISSUE AMMENDMENTS	BS	26-02-09	
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Client: CRAIG PERKINS INVEST. PTY.LTD

Project: ALTERATION TO RESIDENCE
22 CHILTERN ROAD
INGLESIDE NSW

Title: HOUSE SLAB AND FOOTING DETAILS

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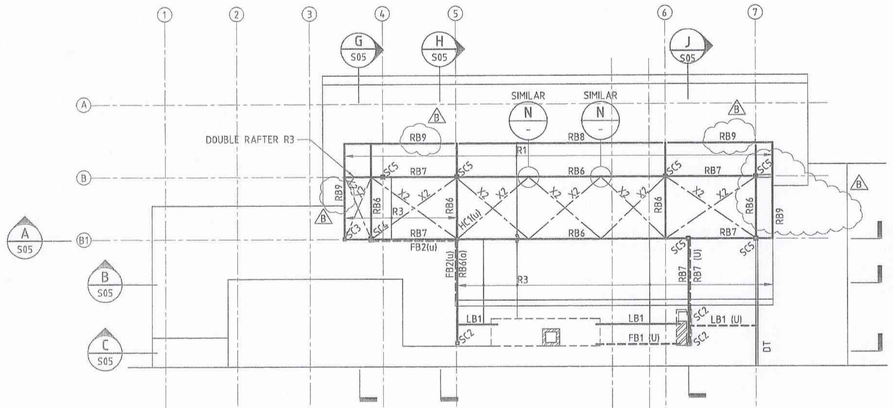
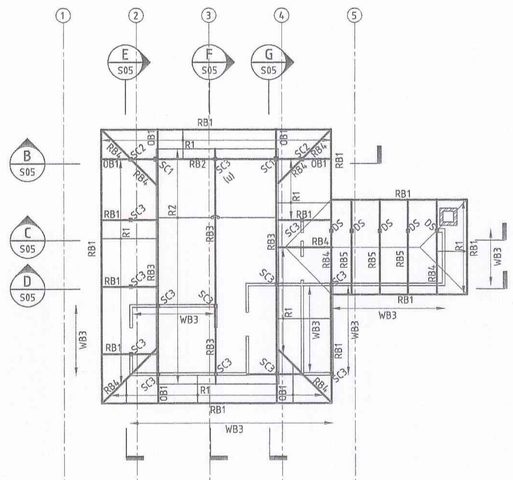
Date of release	Responsible Principal's Signature	Issue
25/02/09	BENJAMIN SCOTT BE(HONS) AUST CPE, NPER	

scales	job no.	drg no.	issue
1:20	1226	S-03	B

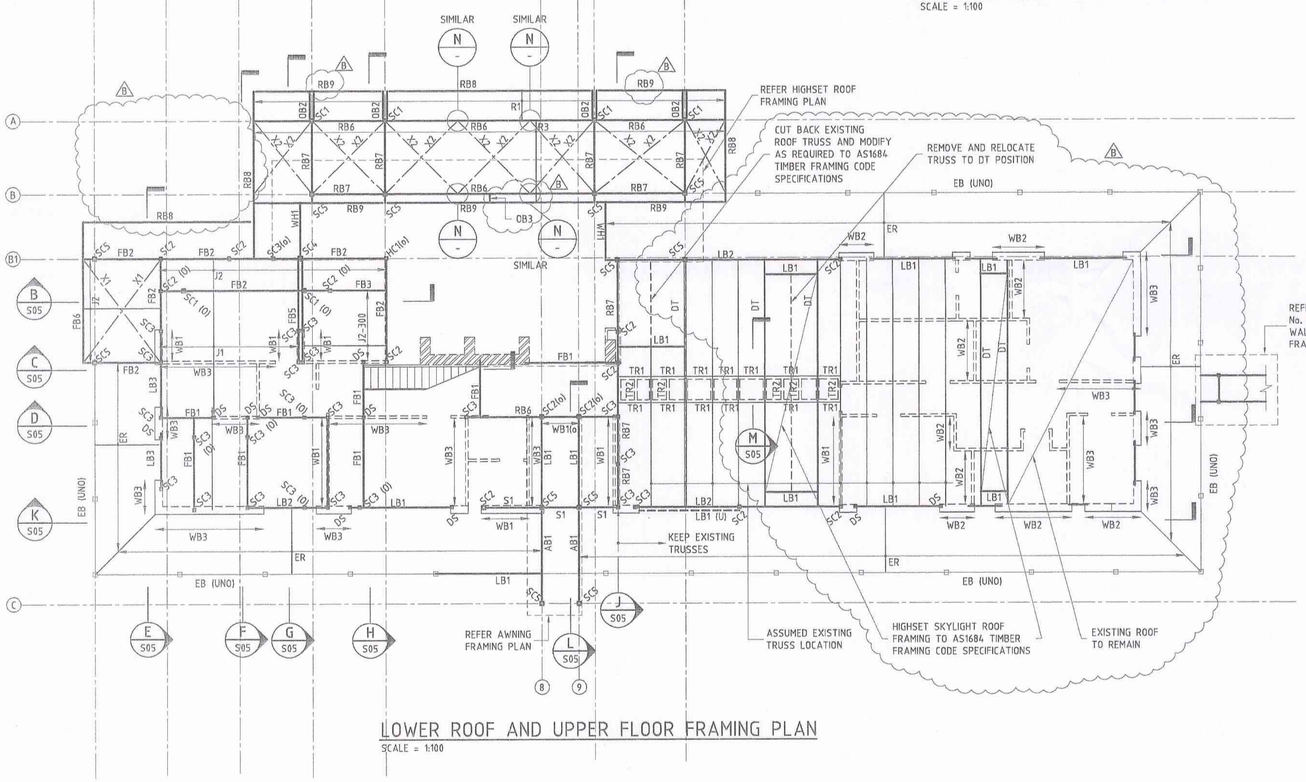
REFER TO GENERAL NOTES
ON DRAWING No. S-0



HIGHSET ROOF FRAMING PLAN
SCALE = 1:100



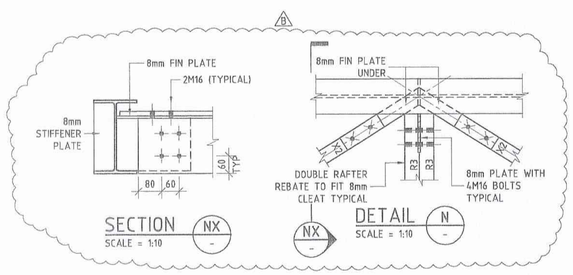
UPPER ROOF FRAMING PLAN
SCALE = 1:100

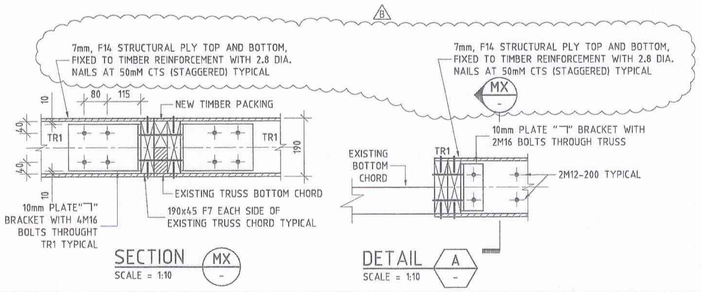


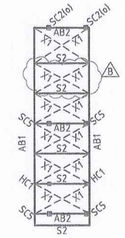
LOWER ROOF AND UPPER FLOOR FRAMING PLAN
SCALE = 1:100

STEELWORK MEMBER SCHEDULE		
MARK	SIZE	REMARKS
RB1	125PFC	ROOF BEAM
RB2	200x100RHS6.0	ROOF BEAM
RB3	200UB18	ROOF BEAM
RB4	2 No 125x45 F7	ROOF BEAM
RB5	120x45 F7	ROOF BEAM
RB6	250UB31	ROOF BEAM
RB7	250UB26	ROOF BEAM
RB8	250PFC	ROOF BEAM
B RB9	200x63 LVL	ROOF BEAM
R1	100x50 F7	TIMBER RAFTER AT 600 CTS
R2	150x50 F7	TIMBER RAFTER AT 600 CTS
R3	200x50 F7	TIMBER RAFTER AT 600 CTS
LB1	2 No 240x45	HYSPAN LINTEL BEAM
LB2	250PFC	STEEL LINTEL BEAM
LB3	240x45	HYSPAN LINTEL BEAM
FB1	2 No 240x45	HYSPAN FLOOR BEAM
FB2	250UB26	STEEL FLOOR BEAM
FB3	150UC30	STEEL FLOOR BEAM
FB4	NOT USED	----------
FB5	2 No 150PFC	STEEL FLOOR BEAM
FB6	250PFC	STEEL FLOOR BEAM
PB1	200UB30	STEEL PERGOLA BEAM
J1	250x50 F7	TIMBER FLOOR JOIST AT 450 CTS
J2	150x45	HYSPAN FLOOR JOIST AT 450 CTS
B J3		NOT USED
J4	90x45 F7	TREATED TIMBER JOISTS AT 450 CTS
TR1	2/190x45 F7	LAMINATED TRUSS REINFORCEMENT WITH 2M12-200 TYPICAL

STEELWORK MEMBER SCHEDULE		
MARK	SIZE	REMARKS
TR2	190x45 F7	TRUSS REINFORCEMENT AT INTERMEDIATE LOCATIONS BETWEEN EXISTING TRUSSES
SC1	125SHS6.0	STEEL COLUMN, 10mm BASE PLATE AND M16 HILTI-HVU ANCHORS UNO B
SC2	100SHS9.0	STEEL COLUMN, 12mm BASE PLATE AND M20 HILTI-HVU ANCHORS UNO
SC3	90SHS6.0	STEEL COLUMN, 8mm BASE PLATE AND M16 HILTI-HVU ANCHORS UNO
SC4	150SHS9.0	STEEL COLUMN, 12mm BASE PLATE AND M20 HILTI-HVU ANCHORS UNO
SC5	125SHS9.0	STEEL COLUMN, 12mm BASE PLATE AND M20 HILTI-HVU ANCHORS UNO
SC6	200UB30	STEEL COLUMN (HDG)
HC1	90SHS6.0	STEEL HANGING COLUMN
WB1	75SHS6.0	STEEL BRACE FRAME
WB2	---	DOUBLE SIDED TYPE B PLY BRACE
WB3	--- B	TYPE B PLY BRACE
WH1	100x100x5 SHS	STEEL WINDOW HEAD
EB	---	DENOTES EXISTING TIMBER BEAM
AB1	150PFC	AWNING BEAM
AB2	150UC30	AWNING BEAM
S1	100SHS6.0	STEEL STRUT B
S2	2 No 150x50 F7	TIMBER STRUT FIX TO AB1 WITH 8mm PLATE AND 2M16 BOLTS (TYPICAL)
WS1	100SHS9.0	WALL STIFFENER
OB1	125x75RHS6.0	STEEL OUTRIGGER BEAM
OB2	100x50RHS6.0	STEEL OUTRIGGER BEAM
OB3	75x75x5 SHS	STEEL OUTRIGGER BEAM B
TP	TIMBER PURLINS	DRESSED HARDWOOD PURLINS TO ARCHITECT'S DETAILS
X1	20x1.0mm	GALSTRAP CROSS BRACE FIXED TOP AND BOTTOM TO FLOOR JOISTS ANCHOR GALSTRAP TO SIDE OF FRAMING TO AS1684
X2	50x8mm FLAT	GRADE 250 (MIN) CROSS BRACE FIXED EACH END WITH BEAMS FIN PLATE AND 2M16 BOLTS B
DT	DOUBLE TRUSSES	DOUBLE UP EXISTING ROOF TRUSSES BY RELOCATING EXISTING TRUSSES FROM OTHER PARTS OF THE BUILDING







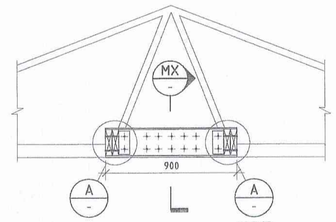
AWNING FRAMING PLAN
SCALE = 1:100

(O) - DENOTES STRUCTURE OVER
(U) - DENOTES STRUCTURE UNDER
ER - DENOTES EXISTING TIMBER RAFTER
DS - DENOTES DOUBLE STUD
HDG - DENOTES HOT DIPPED GALVANISED

- ONLY MAJOR FRAMING ELEMENTS HAVE BEEN NOTED. ALL OTHER FRAMING TO COMPLY WITH AS1684 "RESIDENTIAL TIMBER FRAMING CODE"
- DOUBLE TRUSSES NOTED ON PLAN TO BE BUILT UP USING EXISTING TRUSSES AND RELOCATED AS REQUIRED.
- ALL EXISTING TRUSSES TO BE REUSED WHERE APPROPRIATE, TIED DOWN AND BRACED ACCORDING TO AS1684

- FRAMING MEMBERS APPLY TO HOUSE CONSTRUCTION ONLY B

EXISTING TRUSS
INDICATIVE TRUSS FRAMING ONLY



SECTION M
SCALE = 1:20

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Project
ALTERATION TO RESIDENCE
22 CHILTERN ROAD
INGLESIDE NSW

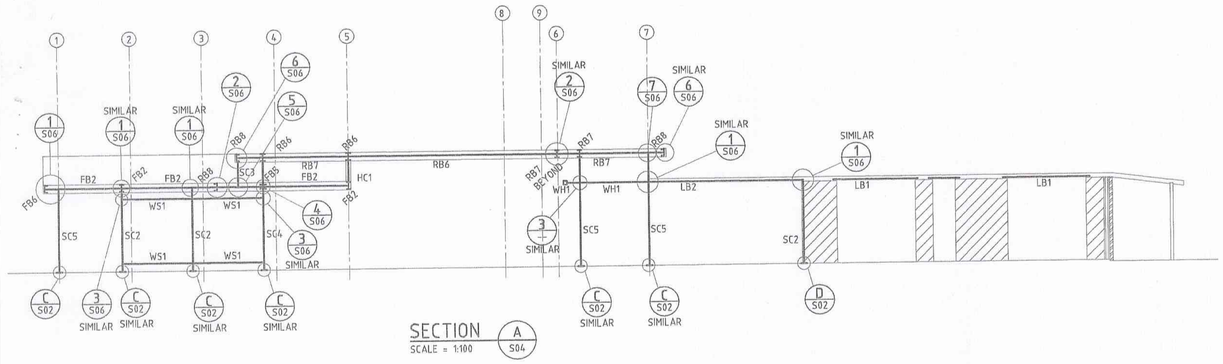
Title
LOWER ROOF AND UPPER FLOOR FRAMING PLAN

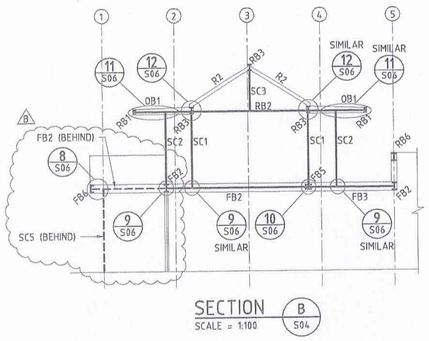
THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION UNLESS ENDORSED BELOW

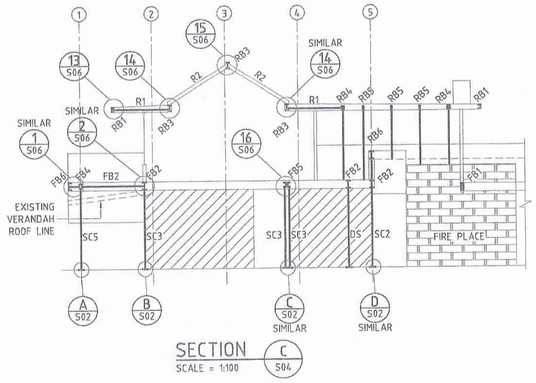
Date of release	Responsible Principal's Signature	Issue
29/02/09	BENVENUTI CPEng NPER	

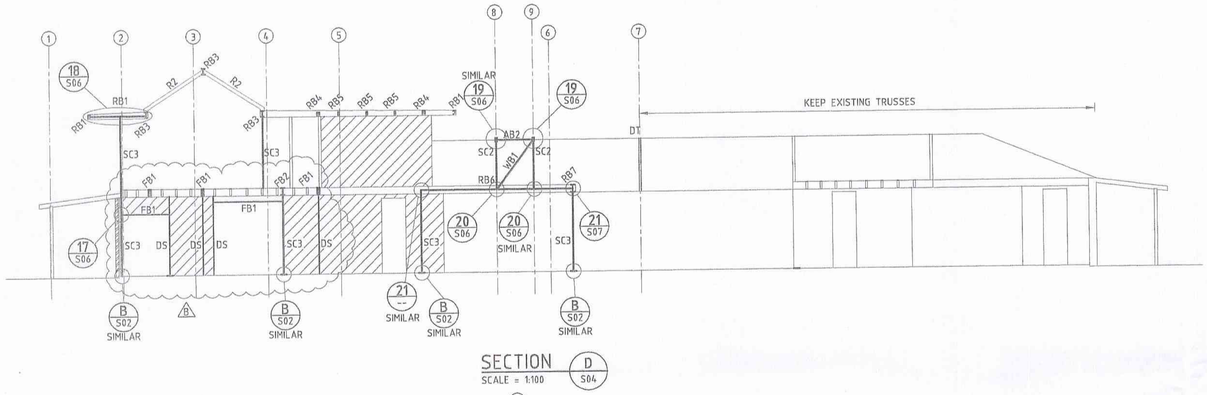
scales	job no.	drg no.	issue
1:100	1226	S-04	B

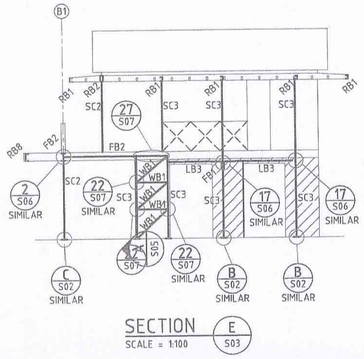
REFER TO GENERAL NOTES
ON DRAWING No. S-0

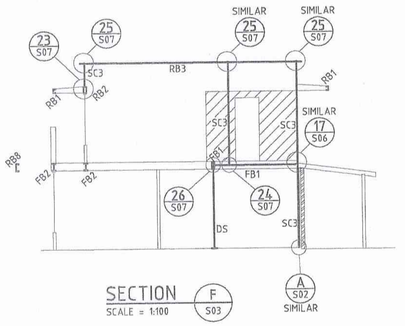


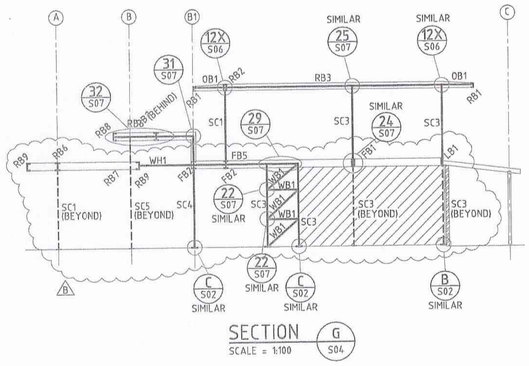


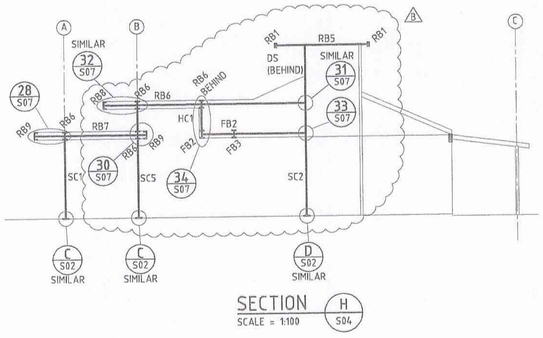


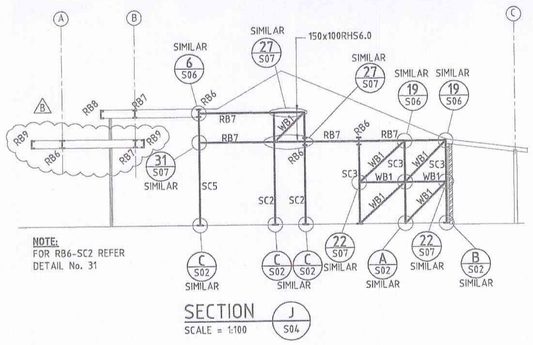


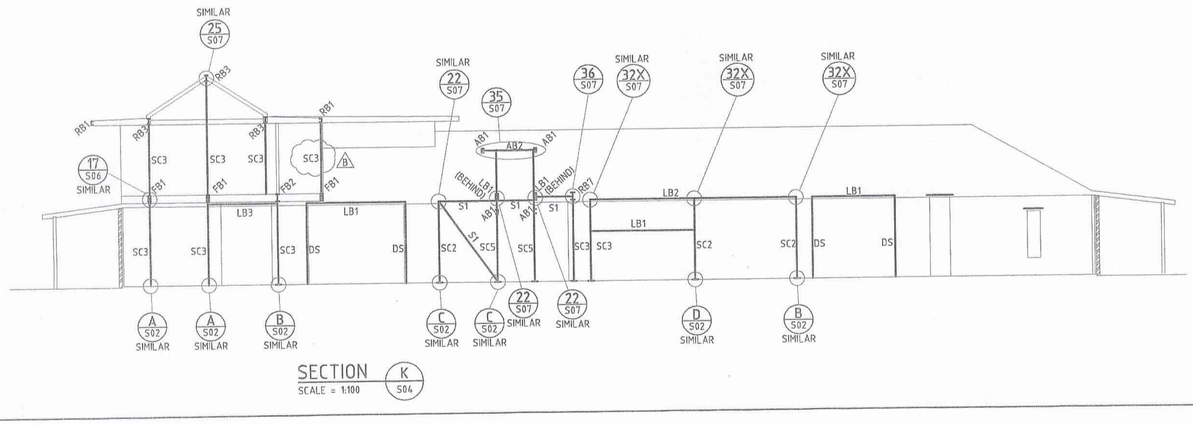


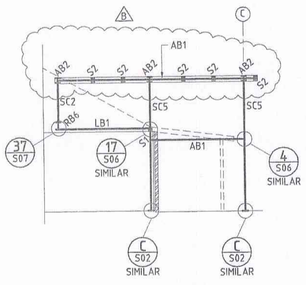












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Client
CRAIG PERKINS INVEST. PTY.LTD

Project
ALTERATION TO RESIDENCE
22 CHILTERN ROAD
INGLESIDE NSW

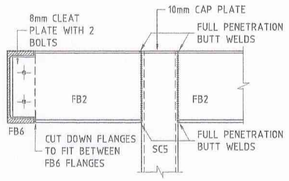
Title
UPPER FLOOR ROOF FRAMING
PLAN AND SECTIONS

THIS DRAWING IS NOT TO BE USED
FOR CONSTRUCTION UNLESS ENDORSED BELOW

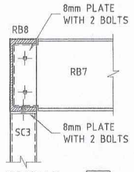
Date of release	Responsible Principal's Signature	Issue
25/02/09	BENJAMIN PENNER	

scales	job no.	drg no.	Issue
1:100	1226	S-05	B

REFER TO GENERAL NOTES
ON DRAWING No. S-0



DETAIL 1 S-05
SCALE = 1:10



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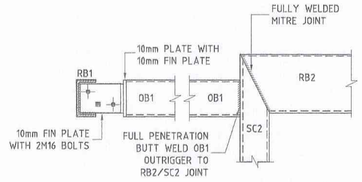

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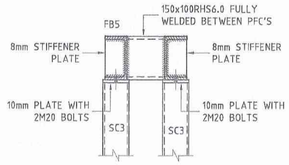

DETAIL 16 S-05
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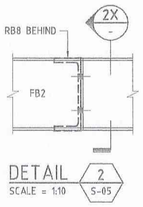

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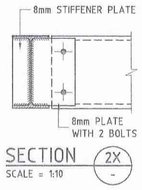

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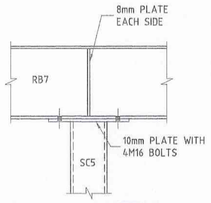

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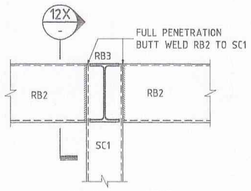

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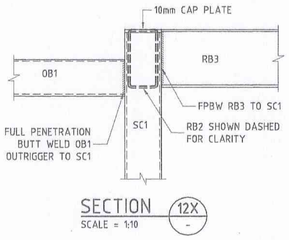

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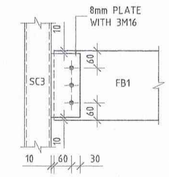

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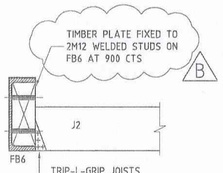

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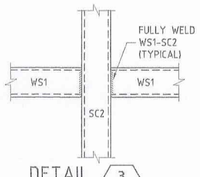

DETAIL 3 S-05
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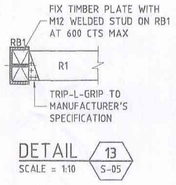

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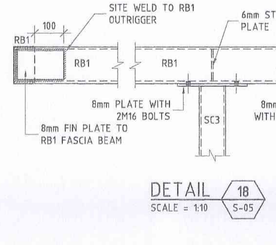

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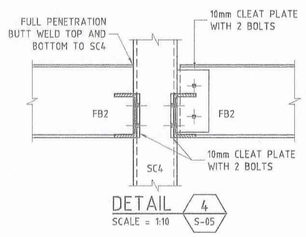

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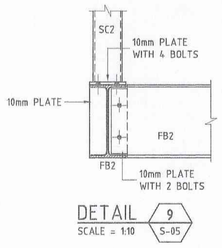

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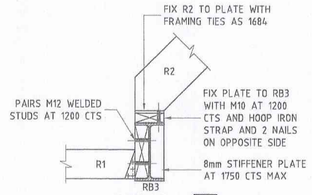

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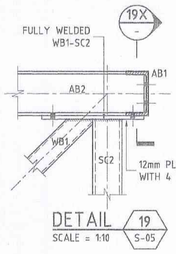

DETAIL 19 S-05
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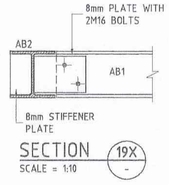

SECTION 19X -
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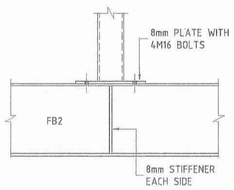

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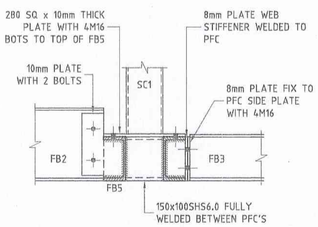

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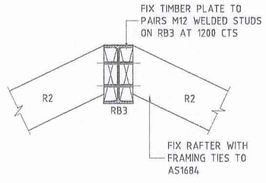

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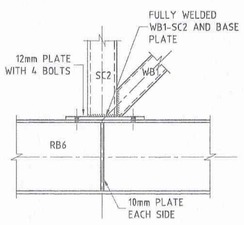

DETAIL 20 S-05
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B	CC ISSUE AMMENDMENTS	AP	25-02-09	
A	CONSTRUCTION CERTIFICATE	AP	31-10-08	
3	ISSUED FOR COSTING ONLY	AP	24-10-08	
2	PRELIMINARY	AP	22-10-08	
1	PRELIMINARY	AP	22-09-08	
Issue	Reason for Issue	Drawn	Sign & Date Design Review	Sign & Date Verification

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Client
CRAIG PERKINS INVEST. PTY.LTD

Project
ALTERATION TO RESIDENCE
22 CHILTERN ROAD
INGLESIDE NSW

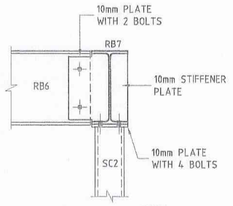
Title
STEEL DETAILS SHEET - 1

THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION UNLESS ENDORSED BELOW

Date of release	Responsible Principal's Signature	Issue
25/02/09	BERNIE AUSTIN B.E. M.I.E.A.	

scales	Job no.	drg no.	issue
1:10	1226	S-06	B

REFER TO GENERAL NOTES
ON DRAWING No. S-0



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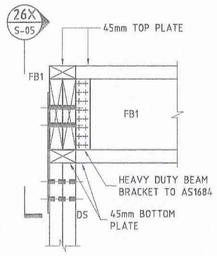

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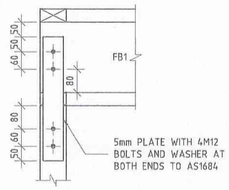

SECTION 26X S-05
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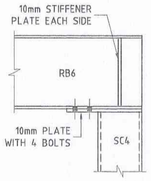

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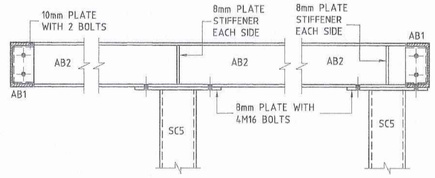

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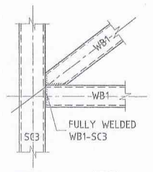

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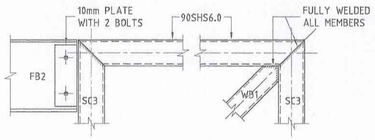

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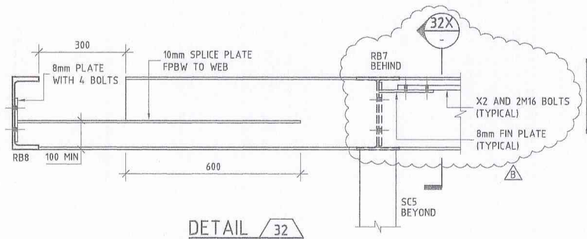

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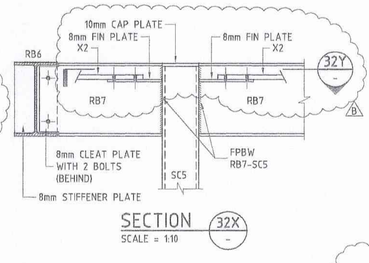

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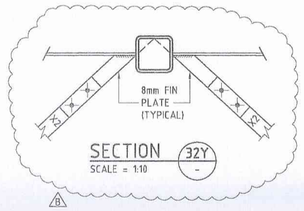

SECTION 32Y -
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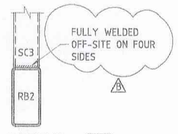

DETAIL 23 S-05
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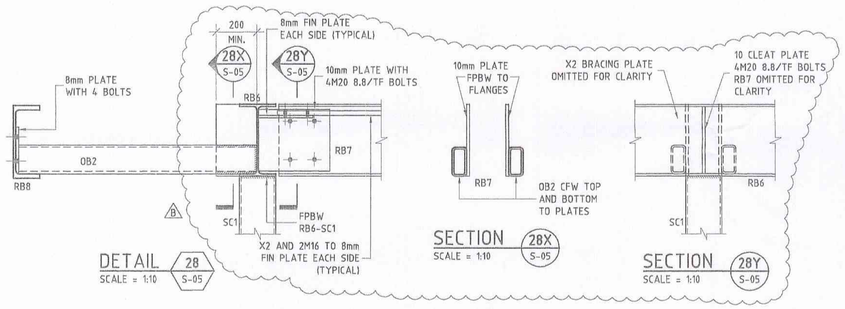
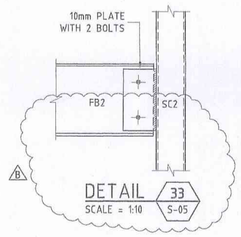


DETAIL 28 S-05
SCALE = 1:10

SECTION 28X S-05
SCALE = 1:10

SECTION 28Y S-05
SCALE = 1:10



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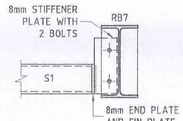

DETAIL 36 S-05
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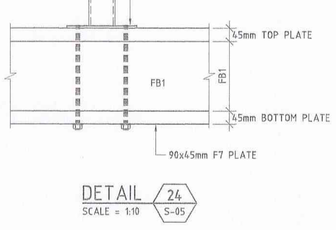

DETAIL 24 S-05
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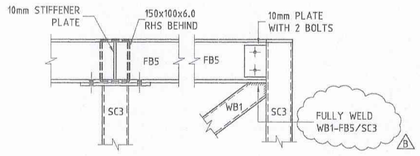

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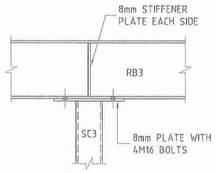

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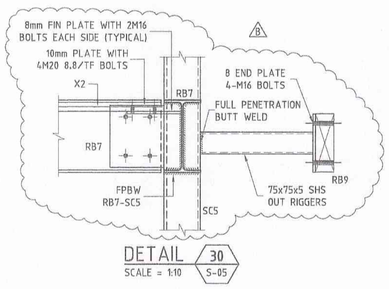

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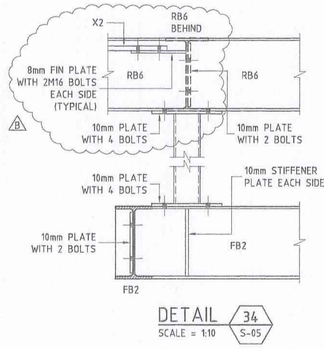

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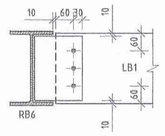

DETAIL 37 S-05
SCALE = 1:10

Issue	Reason for Issue	Drawn	Sign & Date Design Review	Sign & Date Verification
B	CC ISSUE AMMENDMENTS	BS	25.02.09	
A	CONSTRUCTION CERTIFICATE	AP	31-10-08	
3	ISSUED FOR COSTING ONLY	AP	24-10-08	
2	PRELIMINARY	AP	22-10-08	
1	PRELIMINARY	AP	22-09-08	

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Architect
LEAHEY ARCHITECTS
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TEL: (02) 9555 6866 FAX: (02) 9555 6877

Client: CRAIG PERKINS INVEST. PTY.LTD

Project:
ALTERATION TO RESIDENCE
22 CHILTERN ROAD
INGLESIDE NSW

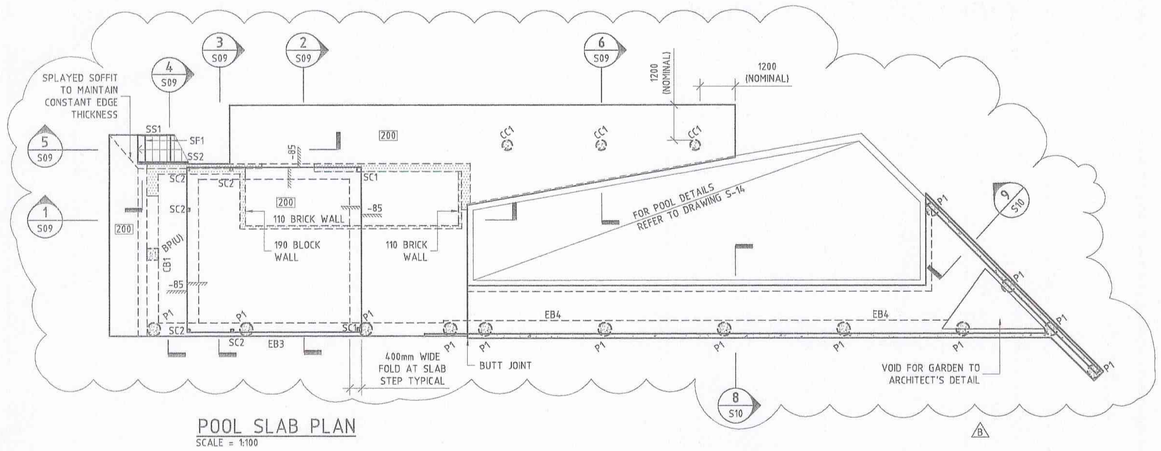
Title:
STEEL DETAILS SHEET - 2

THIS DRAWING IS NOT TO BE USED
FOR CONSTRUCTION UNLESS ENDORSED BELOW

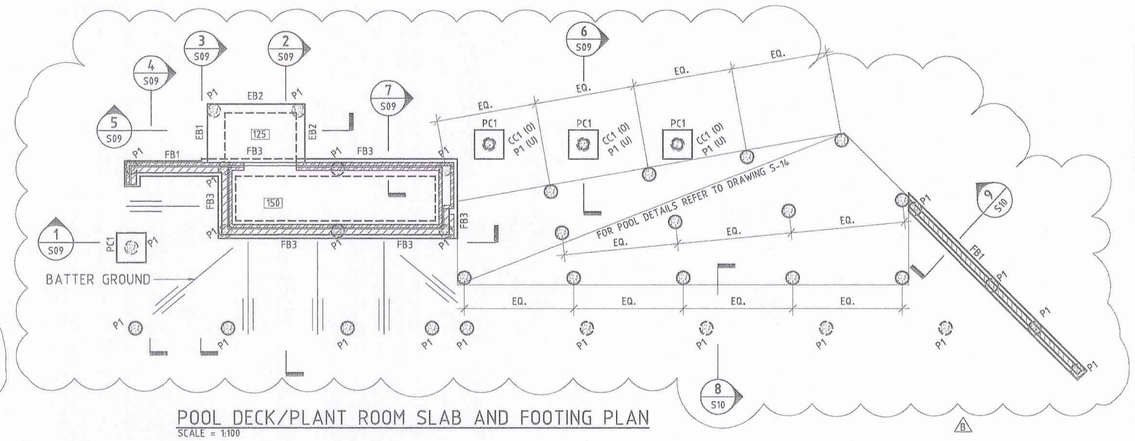
Date of release	Responsible Principal's Signature	Issue
25/02/09	BENJAMIN VENUTI B.E.(Hons) M.I.E.Aust. C.P.Eng. N.P.E.R.	

scales	job no.	drg no.	issue
1:10	1226	S-07	B

REFER TO GENERAL NOTES
ON DRAWING No. S-0

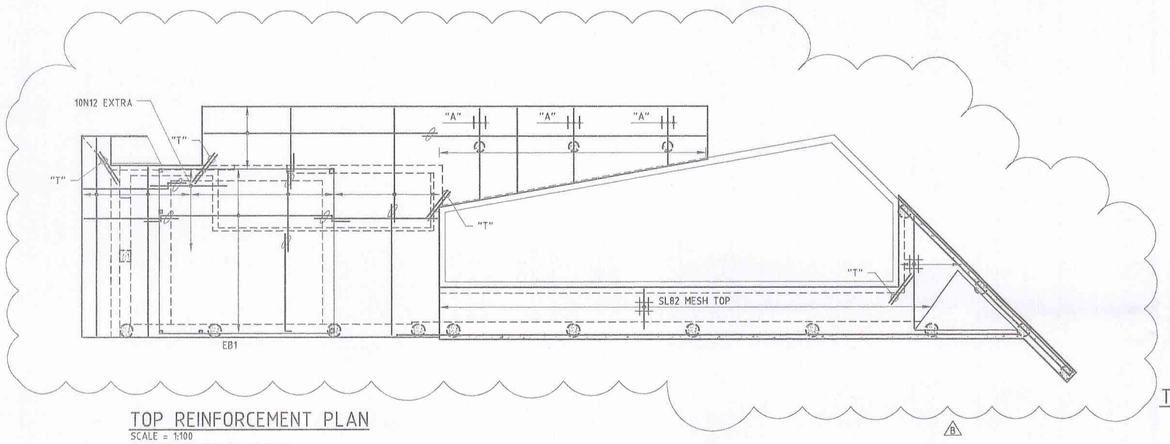


POOL SLAB PLAN
SCALE = 1:100



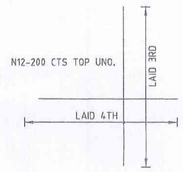
POOL DECK/PLANT ROOM SLAB AND FOOTING PLAN
SCALE = 1:100

- PLANT ROOM SLAB - 40MPa 28 DAY CHARACTERISTIC STRENGTH CONCRETE. 45mm COVER TO STEEL REINFORCENENT
- SLAB THICNESS AS NOTED ON PLAN, ON 0.2mm POLYTHENE VAPOUR BARRIER OVER 20mm (NOMINAL) SAND LEVELLING LAYER



TOP REINFORCEMENT PLAN
SCALE = 1:100

- ALL REINFORCEMENT N12-200 U.N.O.
- "A" - DENOTES 3N16 AT 200 CTS. U.N.O.
- "T" - DENOTES 2N12 x 1200 LONG TOP AT SLAB RE-INTRANT CORNERS TYPICAL PLACE BARS 40mm FROM CORNER AND 30mm APART.

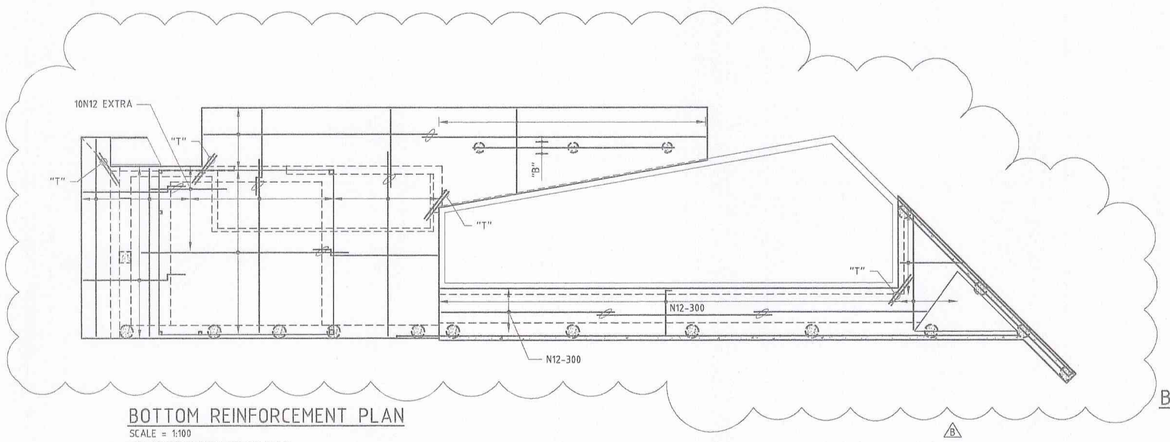


TOP BAR LAYING SEQUENCE U.N.O.

FOOTING MEMBER SCHEDULE		
MARK	SIZE	REINFORCEMENT
FB1	450W x 450D	FOOTING BEAM WITH 3N16 TOP AND BOTTOM, N12-300 TIES
FB2	750W x 450D	FOOTING BEAM WITH 4N20 TOP AND BOTTOM, N12-300 TIES
FB3	600W x 450D	FOOTING BEAM WITH 4N20 TOP AND BOTTOM, N12-300 TIES
PC1	1000SQ x 400D	PILE CAP WITH 4N16 "⌐¬" BARS EACH WAY, EACH FACE
P1	450 ∅ DIAMETER	REINFORCED CONCRETE PIER WITH 4N12 BARS, R6-150 PITCH HELIXTIE
EB1	600W x 300D	EDGE BEAM WITH 3N12 TOP AND BOTTOM, R10-600 TIES
EB2	300W x 300D	EDGE BEAM WITH 2N12 TOP AND BOTTOM, R10-600 TIES
EB3	450 W x 400 (MIN) D	EDGE BEAM WITH 3N16 TOP AND BOTTOM, N12-300 TIES
EB4	600 W x 300 (MIN) D	EDGE BEAM WITH 4N12 TOP AND BOTTOM, N12-300 TIES
BP	390W x 390D	BLOCK PIER WITH 4N16 BARS R6-200 TIES
CB1	400W x 400D	BEAM WITH 2N16 TOP AND BOTTOM R10-200 STIRRUPS
CC1	350 ∅ DIAMETER	CONCRETE COLUMN WITH 6N16 BARS R10-250 TIES
SF1	150 W x 12 THK (HDG)	CONTINUOUS FLAT STEEL WELDED TO STAIR STRINGER EACH END, EVERY FOURTH TREAD
SS1	2/200 D x 12 THK (HDG)	STEEL STAIR STRINGER
SS2	200 D x 12 THK (HDG)	STEEL FLAT STAIR STRINGER

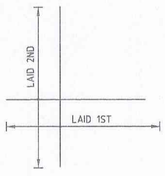
HDG - DENOTES HOT DIPPED GALVANISED

- FOOTING TYPES APPLY TO POOL-LANAI CONSTRUCTION ONLY



BOTTOM REINFORCEMENT PLAN
SCALE = 1:100

- ALL REINFORCEMENT N12-200 U.N.O.
- "B" - DENOTES 3N16 AT 200 CTS. U.N.O.
- "T" - DENOTES 2N12 x 1200 LONG BOTTOM AT SLAB RE-INTRANT CORNERS TYPICAL PLACE BARS 40mm FROM CORNER AND 30mm APART.



BOTTOM BAR LAYING SEQUENCE U.N.O.

Issue		Drawn	Sign & Date Design Review	Sign & Date Verification
B	CC ISSUE AMMENDMENTS	BS	25-02-09	
A	CONSTRUCTION CERTIFICATE	AP	31-10-08	
3	ISSUED FOR COSTING ONLY	AP	24-10-08	
2	PRELIMINARY	AP	22-10-08	
1	PRELIMINARY	AP	05-09-08	

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Client
CRAIG PERKINS INVEST. PTY.LTD

Project
ALTERATION TO RESIDENCE
22 CHILTERN ROAD
INGLESIDE NSW

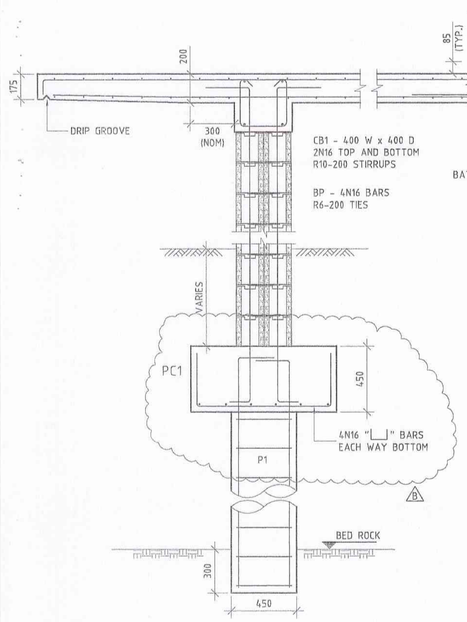
Title
POOL SLAB, FOOTING AND REINFORCEMENTS PLAN

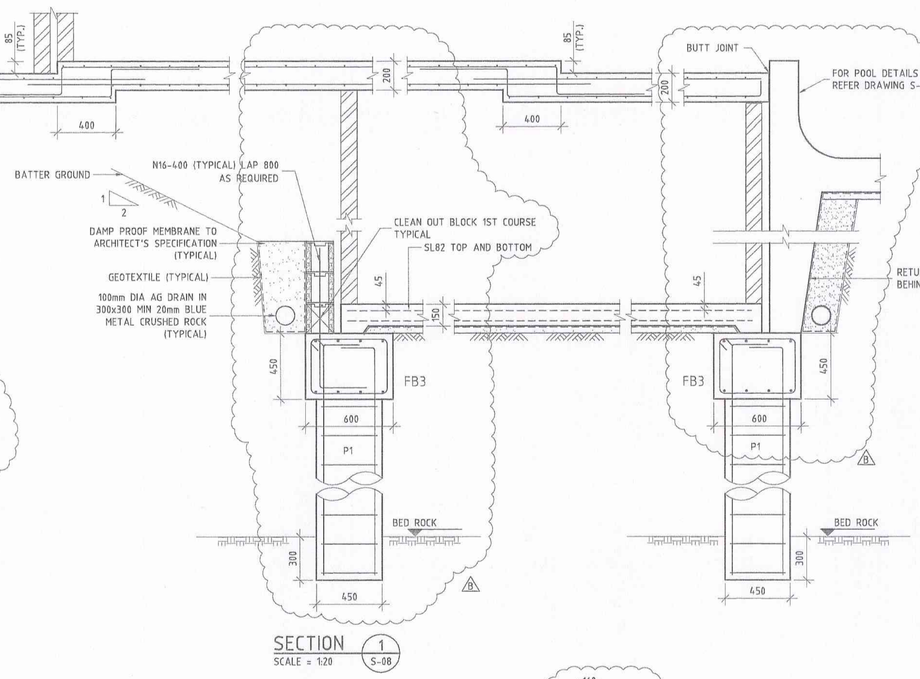
THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION UNLESS ENDORSED BELOW

Date of release	Responsible Principal's signature	Issue
25/02/09	BENJIE AUSTIN-BENN	

scales	job no.	drg no.	issue
1:100	1226	S-08	B

REFER TO GENERAL NOTES ON DRAWING No. S-0





SECTION 1 S-08
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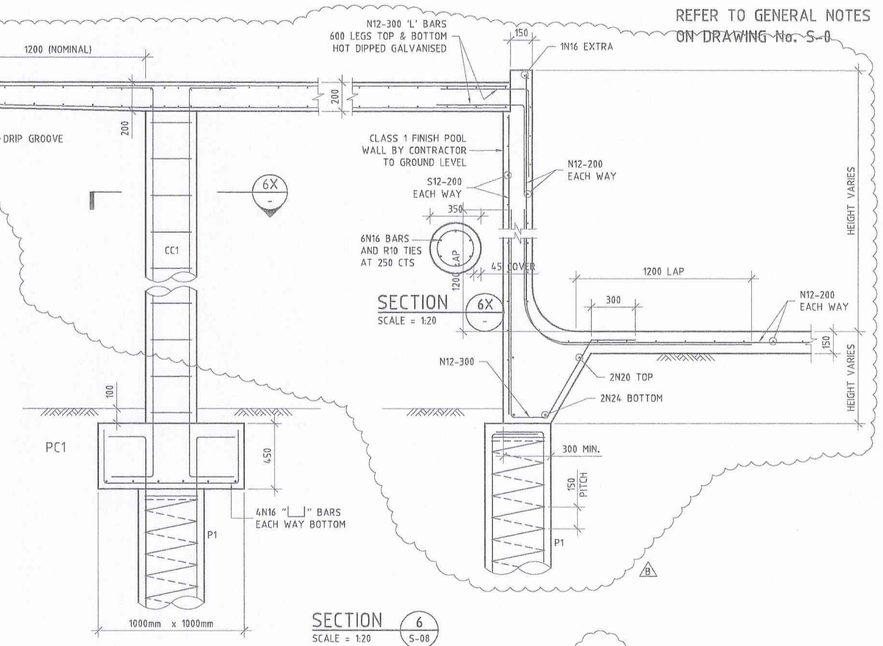

SECTION 6 S-08
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SECTION 6X -
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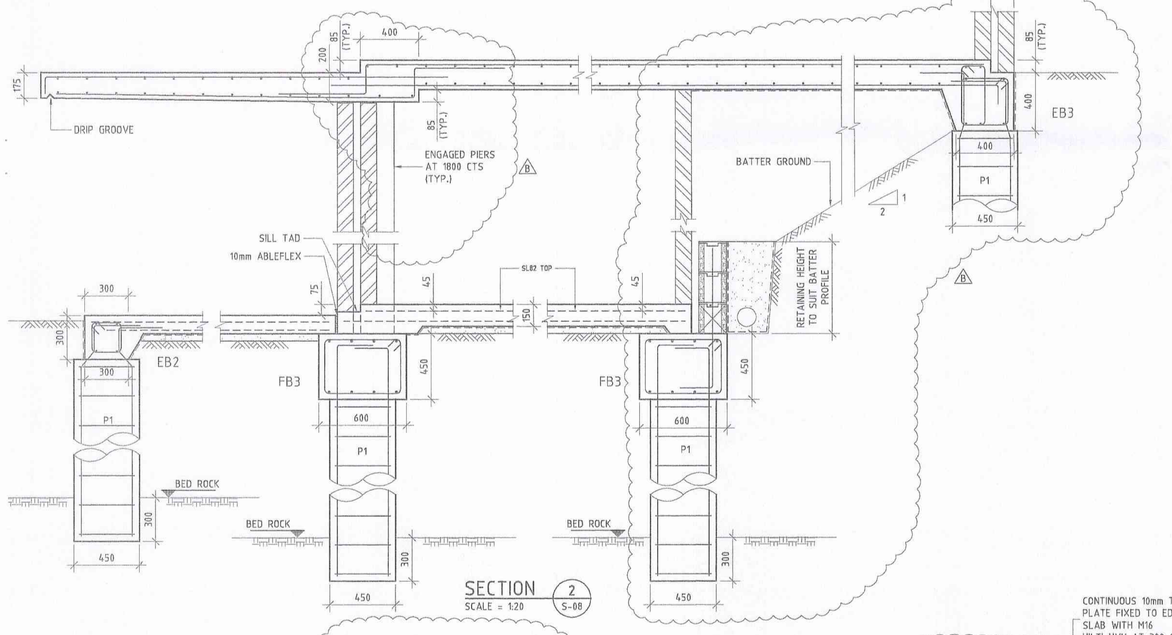

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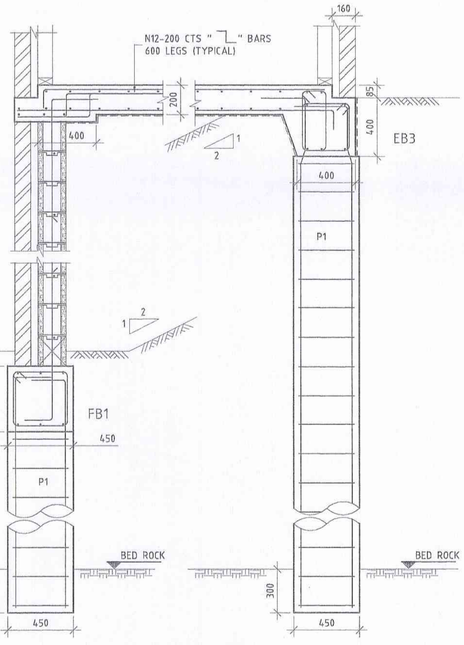

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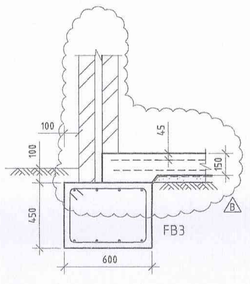

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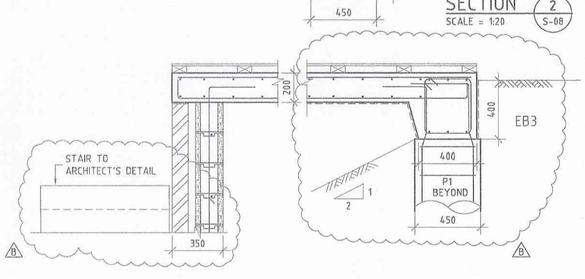

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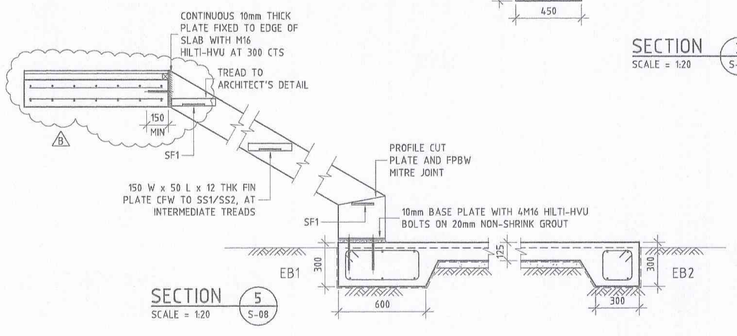

SECTION 5 S-08
SCALE = 1:20

Issue	Reason for Issue	Drawn	Sign & Date Design Review	Sign & Date Verification
B	CC ISSUE AMMENDMENTS	BS	25-02-09	
A	CONSTRUCTION CERTIFICATE	AP	31-10-08	
3	ISSUED FOR COSTING ONLY	AP	24-10-08	
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Architect
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Client: CRAIG PERKINS INVEST. PTY.LTD

Project: ALTERATION TO RESIDENCE
22 CHILTERN ROAD
INGLESIDE NSW

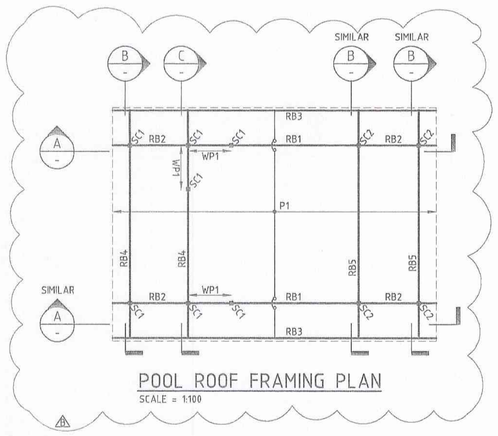
Title: POOL SLAB AND FOOTING DETAILS

THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION UNLESS ENDORSED BELOW

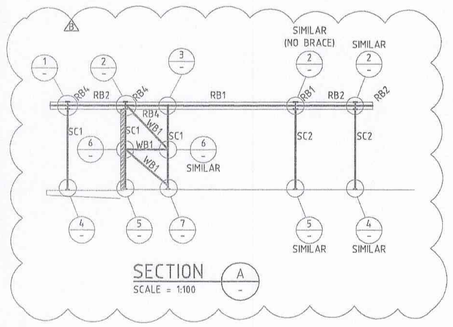
Date of release	Responsible Principal's Signature	Issue
25/02/09	BENJAMIN LEE Eng MIEAust CPEng NPER	

scales	job no.	drg no.	issue
1:20	1226	S-09	B

REFER TO GENERAL NOTES
ON DRAWING No. S-0



POOL ROOF FRAMING PLAN
SCALE = 1:100



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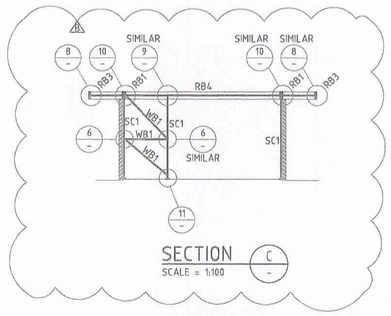

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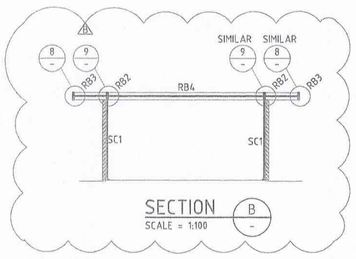

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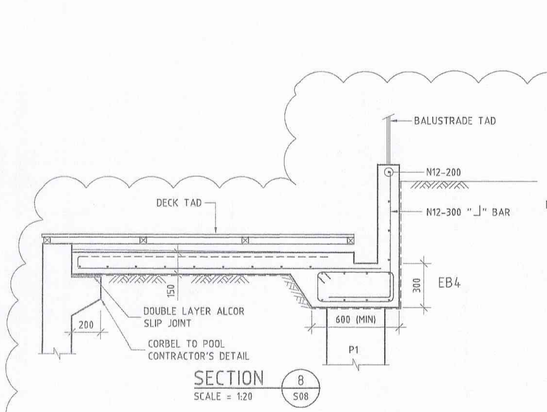

SECTION 8
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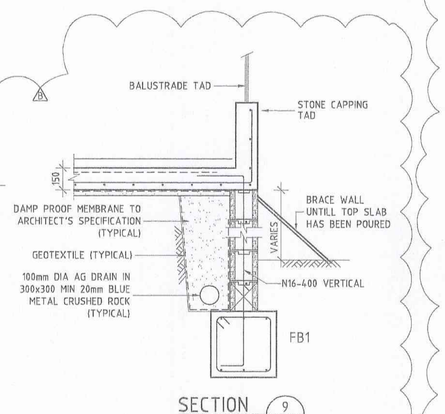
S08



SECTION 9
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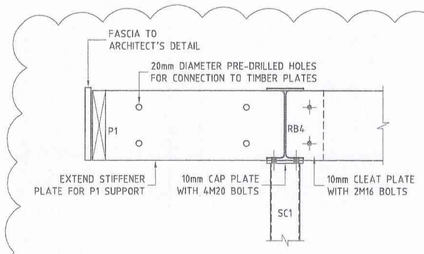
S08



DETAIL 1
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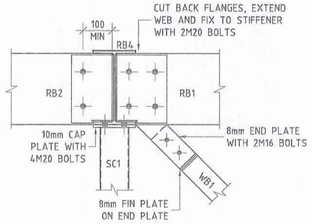

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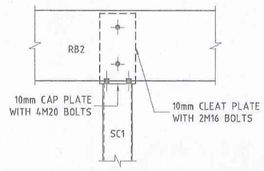

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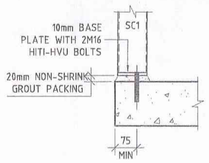

DETAIL 4
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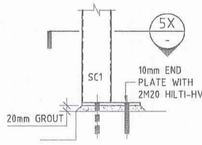

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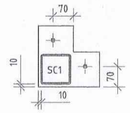
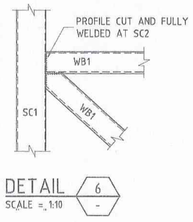


DETAIL 5X
SCALE = 1:10



DETAIL 6
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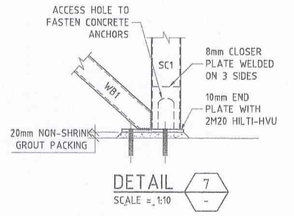

DETAIL 7
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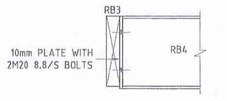

DETAIL 8
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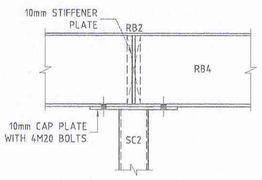

DETAIL 9
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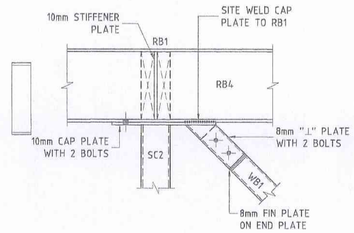
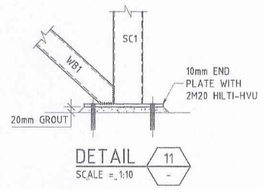


DETAIL 10
SCALE = 1:10



DETAIL 11
SCALE = 1:10

STEELWORK MEMBER SCHEDULE

MARK	SIZE	REMARKS
RB1	2/240x45 LVL F17	ROOF BEAM (BOLTED TOGETHER)
RB2	240x45 LVL F17	ROOF BEAM
RB3	240x45 LVL F17	ROOF BEAM
RB4	250UB25	ROOF BEAM
RB5	240UB31	ROOF BEAM
P1	240x45 LVL	PURLINS AT 1000 CTS
SC1	100SHS3.0	STEEL COLUMN
SC2	100SHS9.0	STEEL COLUMN
WB1	75SHS5.0	WELDED WALL BRACING

- HDG - DENOTES HOT DIPPED GALVANISED
- ONLY MAJOR FRAMING ELEMENTS HAVE BEEN NOTED, ALL OTHER FRAMING TO COMPLY WITH AS1684 "RESIDENTIAL TIMBER FRAMING CODE"

- FRAMING MEMBERS APPLY TO POOL-LANAI CONSTRUCTION ONLY

Issue	Reason for Issue	Drawn	Sign & Date Design Review	Sign & Date Verification
B	CC ISSUE AMMENDMENTS	AP	25-02-09	
A	CONSTRUCTION CERTIFICATE	AP	31-10-08	
3	ISSUED FOR COSTING ONLY	AP	24-10-08	
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Client: CRAIG PERKINS INVEST. PTY.LTD

Project: ALTERATION TO RESIDENCE
22 CHILTERN ROAD
INGLESIDE NSW

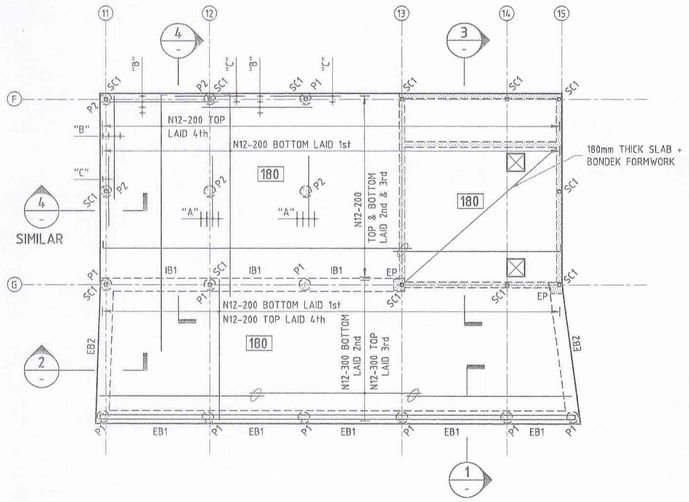
Title: POOL AND LANAI ROOF
FRAMING PLAN AND DETAILS

THIS DRAWING IS NOT TO BE USED
FOR CONSTRUCTION UNLESS ENDORSED BELOW

Date of release	Responsible Principal's Signature	Issue
25/02/09	BENJAMIN BENVENUTI	

scales	Job no.	drg no.	issue
1:100, 1:10	1226	S-10	B

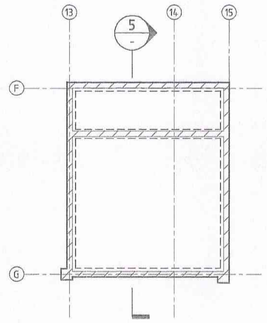
REFER TO GENERAL NOTES ON DRAWING No. S-0



GARAGE SLAB PLAN

SCALE = 1:100

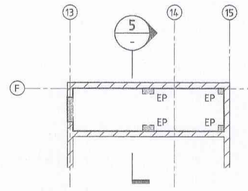
- 180mm THICK SLAB WITH SL82 MESH REINFORCEMENT TOP AND BOTTOM ON 0.2mm POLYETHENE MEMBRANE OVER 20mm LEVELLING SAND ON FILL AS FORMWORK UNO.
- 40MPa 28 DAY CHARACTERISTIC STRENGTH CONCRETE U.N.O.
- HDG - DENOTES HOT DIPPED GALVANISED
- TOP MESH LAP TO OCCUR MIDSPAN BETWEEN BEAMS ONLY.
- "A" - DENOTES 4N12-200 CTS. EXTRA REINFORCEMENT 2400mm LONG, TOP IN COLUMN STRIP OVER P1
- "B" - DENOTES 4N12-200 CTS. EXTRA REINFORCEMENT BOTTOM BETWEEN P1 COLUMNS SHOWN ON PLAN
- "C" - DENOTES 2N16-200 CTS. EXTRA REINFORCEMENTS 2400 LONG TOP OVER P1



TANK BASE SLAB PLAN

SCALE = 1:100

- 180mm THICK SLAB WITH SL82 MESH REINFORCEMENT TOP AND BOTTOM ON 0.2mm POLYETHENE MEMBRANE OVER 20mm LEVELLING SAND.



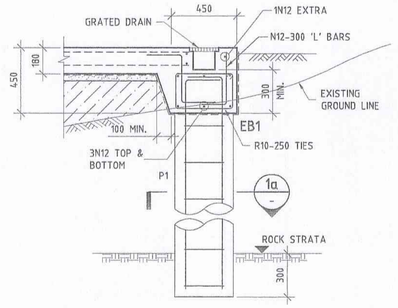
PUMP ROOM SLAB PLAN

SCALE = 1:100

- 150mm THICK SLAB WITH SL82 MESH REINFORCEMENT BOTTOM.

FOOTING MEMBER SCHEDULE		
MARK	SIZE	REINFORCEMENT
EB1	450D x 450W	EDGE BEAM WITH GRATED DRAIN 3N12 TOP AND BOTTOM, R10-250 TIES
EB2	450D x 300W	EDGE BEAM WITH 2N12 TOP AND 2N16 BOTTOM, R10-300 TIES
IB1	450D (MIN) x 450W	INTERNAL BEAM WITH 3N12 TOP AND BOTTOM, R10-300 STIRRUPS
P1	400 DIAMETER	REINFORCED CONCRETE PIER, 6N16 BARS, R6-200 TIES, 300mm SOCKET IN BEDROCK
P2	400 DIAMETER	REINFORCED CONCRETE PIER, 6N16 BARS, R6-600 TIES, 300mm SOCKET IN BEDROCK
EP	190 x 390	ENGAGED BLOCK PIER

- FOOTING TYPES APPLY TO GARAGE CONSTRUCTION ONLY



SECTION 1

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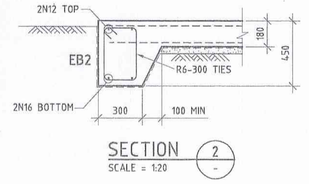

SECTION 2

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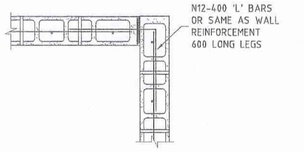
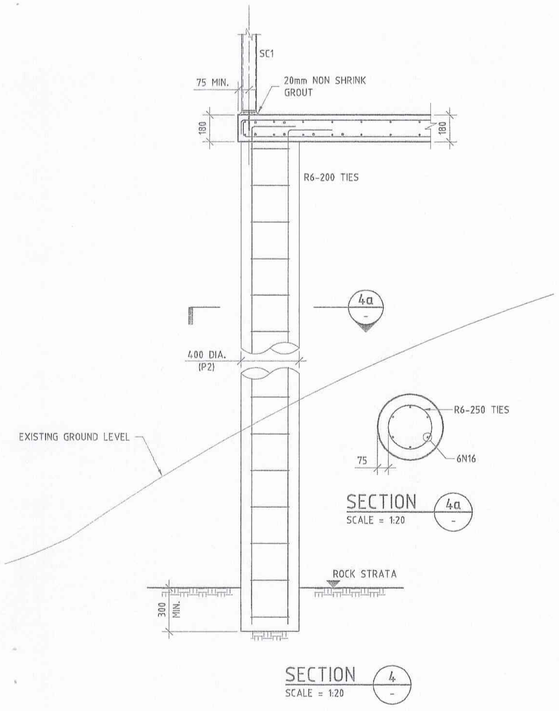


TYPICAL BLOCK WALL CORNER DETAIL

(SCALE = 1:20)

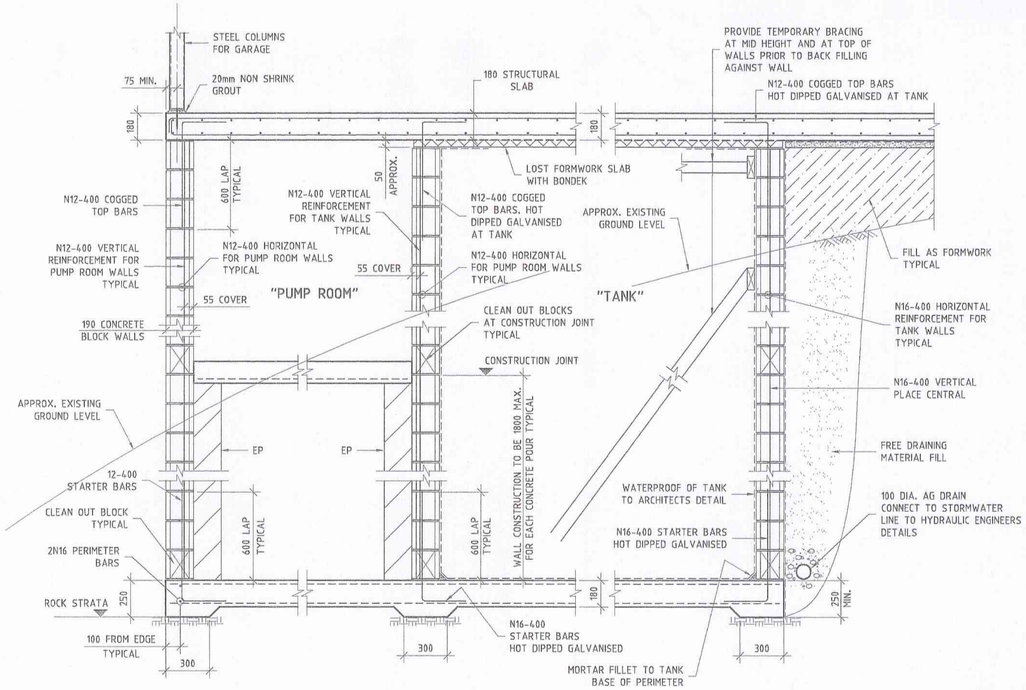


SECTION 4a

SCALE = 1:20

SECTION 4

SCALE = 1:20



SECTION 5

SCALE = 1:20

Issue	Reason for Issue	Drawn	Sign & Date Design Review	Sign & Date Verification
B	CC ISSUE AMMENDMENTS	BS	25-02-09	
A	CONSTRUCTION CERTIFICATE	AP	31-10-08	
3	ISSUED FOR COSTING ONLY	AP	24-10-08	
2	PRELIMINARY	AP	22-10-08	
1	PRELIMINARY	AP	05-09-08	

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Client: CRAIG PERKINS INVEST. PTY.LTD

Project: ALTERATION TO RESIDENCE
22 CHILTERN ROAD
INGLESIDE NSW

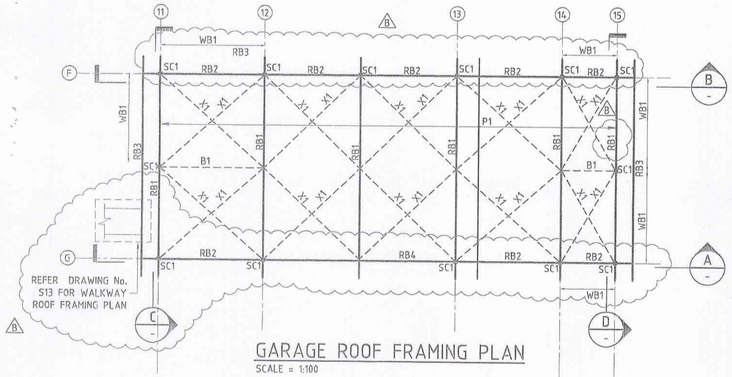
Title: GARAGE SLAB PLAN AND FOOTING DETAILS

THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION UNLESS ENDORSED BELOW

Date of release	Responsible Principal's Signature	Issue
25/02/09	BEATIE ASSOCIATES	

scales	job no.	drg no.	issue
1:100, 1:20	1226	S-11	B

REFER TO GENERAL NOTES ON DRAWING No. S-0



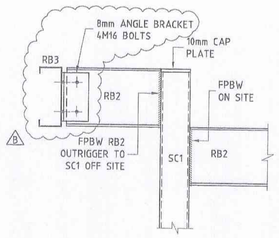
GARAGE ROOF FRAMING PLAN
SCALE = 1:100

STEELWORK MEMBER SCHEDULE

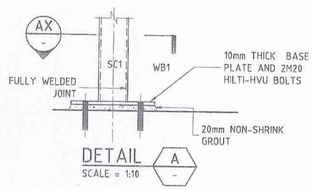
MARK	SIZE	REMARKS
SC1	100SHS6.0	STEEL COLUMN
RB1	2 No. C20024	BACK TO BACK PURLINS ROOF BEAM WELD FLANGES TOGETHER TOP AND BOTTOM INTERMITTENT FILLET WELDS. HIT 50mm MISS 200mm. BAT WEB TOGETHER WITH 2M12 AT 300 CTS
RB2	200UB18	ROOF BEAM
RB3	C20024	FASCIA
RB4	250UB37	ROOF BEAM
P1	C20024	PURLIN AT 1200 CTS, 2 ROWS BRIDGING (TYPICAL)
WB1	75x6mm FLAT	GRADE 250 MIN PLATE WELDED TO COLUMNS TOP AND BOTTOM
WH1	89SHS3.5	STEEL WINDOW HEAD
X1	32x1.2mm GALSTRAP	GRADE 250 MIN STRAP BRACE TOP AND BOTTOM OF PURLINS
B1	C20024	BRIDGING STRUTS BETWEEN PURLINS. FIX ON EACH SIDE OF EVERY PURLIN WITH GENERAL PURPOSE BRACKETS
S1	TIMBER STUD FRAME	TO AS1684 TIMBER FRAMING CODE SPECIFICATIONS
DS	2/90x45 F7	TREATED STUDS BOLTED TOGETHER WITH M8 BOLT AT 600 CTS.

- HDG - DENOTES HOT DIPPED GALVANISED
- ONLY MAJOR FRAMING ELEMENTS HAVE BEEN NOTED, ALL OTHER FRAMING TO COMPLY WITH AS1684 "RESIDENTIAL TIMBER FRAMING CODE"

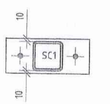
- FRAMING MEMBERS APPLY TO GARAGE CONSTRUCTION ONLY



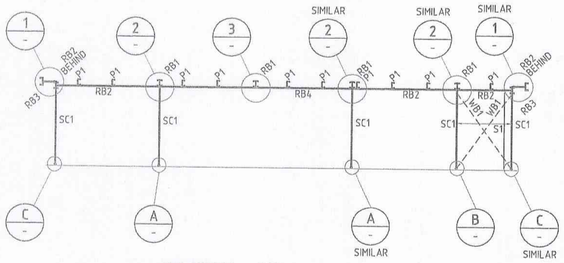
DETAIL 1
SCALE = 1:10



DETAIL A
SCALE = 1:10



SECTION AX
SCALE = 1:10



SECTION A
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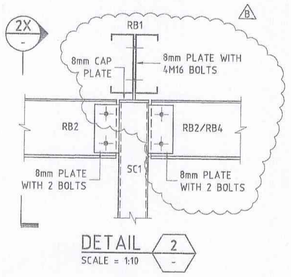

DETAIL 2
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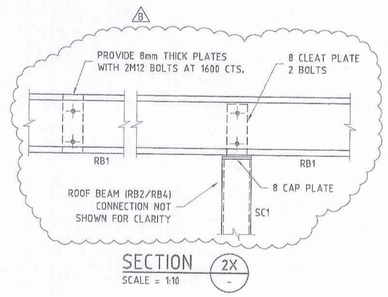

SECTION 2X
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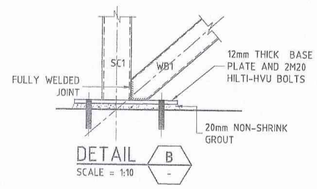

DETAIL B
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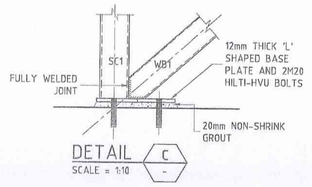

DETAIL C
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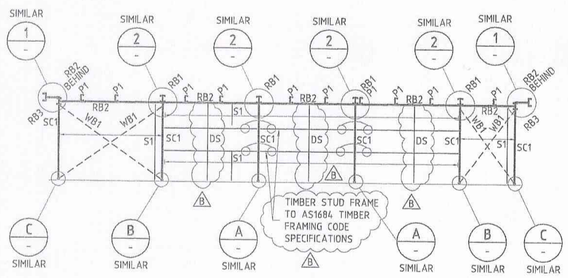

SECTION B
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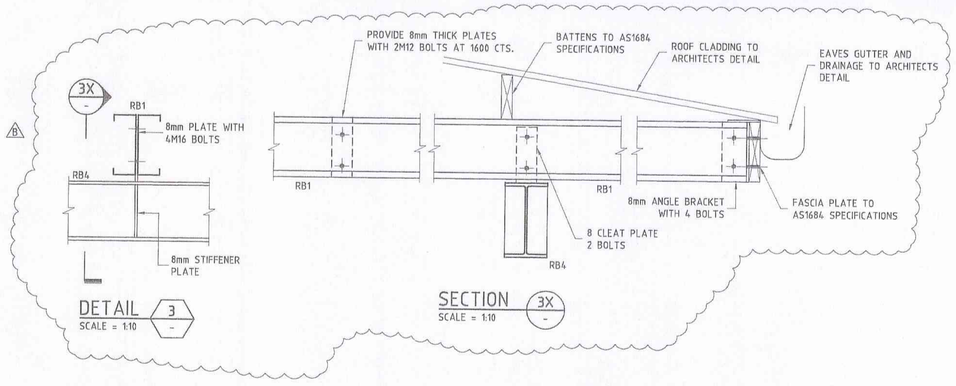
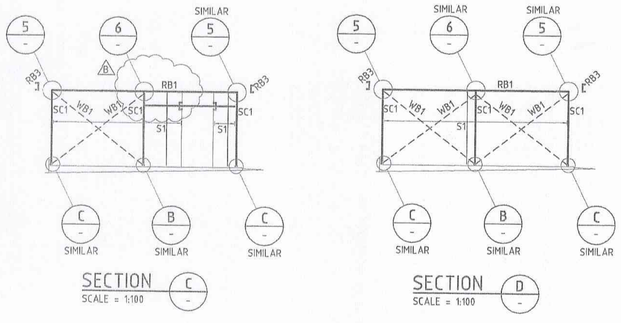


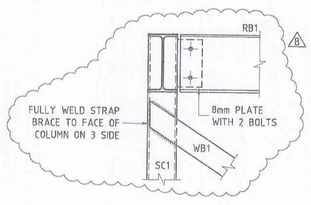
DETAIL 3
SCALE = 1:10

SECTION 3X
SCALE = 1:10



SECTION C
SCALE = 1:100

SECTION D
SCALE = 1:100



DETAIL 5
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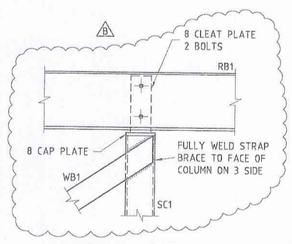

DETAIL 6
SCALE = 1:10

Issue	Reason for Issue	Drawn	Sign & Date Design Review	Sign & Date Verification
B	CC ISSUE AMMENDMENTS	AP	25-02-09	
A	CONSTRUCTION CERTIFICATE	AP	31-10-08	
3	ISSUED FOR COSTING ONLY	AP	24-10-08	
2	PRELIMINARY	AP	22-10-08	
1	PRELIMINARY	AP	05-09-08	

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Client: CRAIG PERKINS INVEST. PTY.LTD

Project: ALTERATION TO RESIDENCE
22 CHILTERN ROAD
INGLESIDE NSW

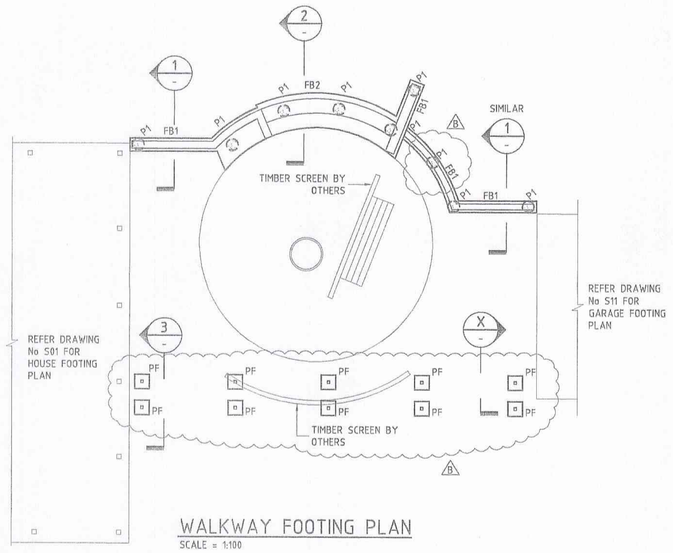
Title: GARAGE ROOF FRAMING PLAN AND DETAILS

THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION UNLESS ENDORSED BELOW

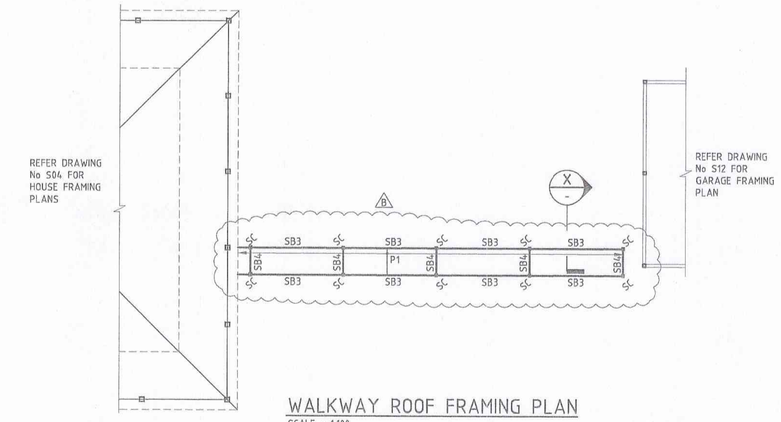
Date of release	Responsible Principal's Signature	Issue
25/02/09	BENVENUTI	

scales	job no.	drg no.	issue
1:100, 1:10	1226	S-12	B

REFER TO GENERAL NOTES
ON DRAWING No. S-0



WALKWAY FOOTING PLAN
SCALE = 1:100

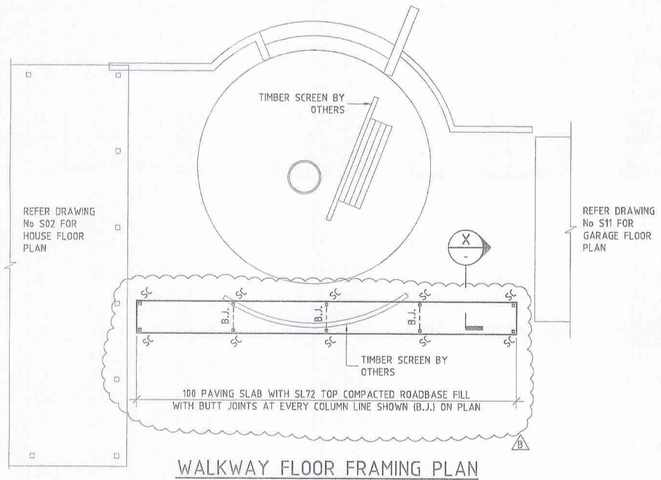


WALKWAY ROOF FRAMING PLAN
SCALE = 1:100

FOOTING MEMBER SCHEDULE		
MARK	SIZE	REINFORCEMENT
P1	400 DIAMETER	REINFORCED CONCRETE PILE WITH 4N12 BARS, R6 HELIXTIE - 150 PITCH
PF	500 x 500 x 500 D	FOOTING
FB1	600 W x 450 D	FOOTING BEAM WITH 3N12 TOP AND BOTTOM, R10-300 TIES
FB2	1200 W x 450 D	FOOTING BEAM WITH 6N12 TOP AND BOTTOM, R10-300 TIES

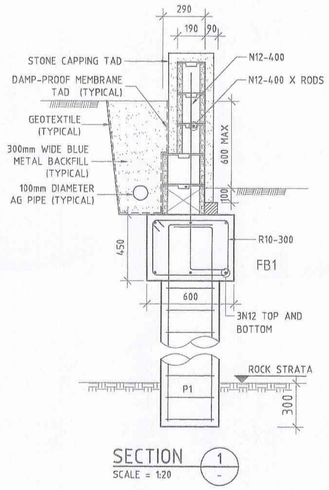
STEELWORK MEMBER SCHEDULE		
MARK	SIZE	REMARKS
SC	90SHS6.0	STEEL COLUMN (HDG)
SB2	125x75RHS6.0 (HDG)	STEEL WALKWAY BEAM (HDG)
SB3	200 x 75 F11	WALKWAY BEAM
SB4	125x75x6.0RHS (HDG)	STEEL WALKWAY BEAM (HDG)
P1	75 x 50 F11	TIMBER PURLINS AT 1200 CTS

- HDG - DENOTES HOT DIPPED GALVANISED
- ONLY MAJOR FRAMING ELEMENTS HAVE BEEN NOTED, ALL OTHER FRAMING TO COMPLY WITH AS1684 "RESIDENTIAL TIMBER FRAMING CODE"
- FOOTING TYPES AND FRAMING MEMBERS APPLY TO WALKWAY CONSTRUCTION ONLY



WALKWAY FLOOR FRAMING PLAN
SCALE = 1:100

- STEPS AND PAVING GRADIENTS AS PER ARCHITECTS DETAIL



SECTION 1
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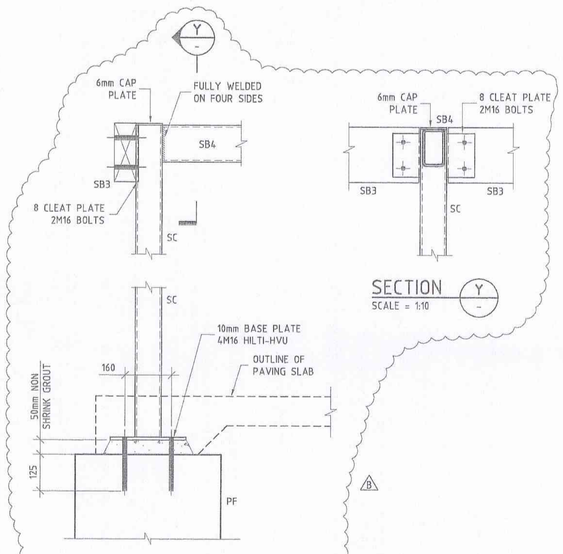
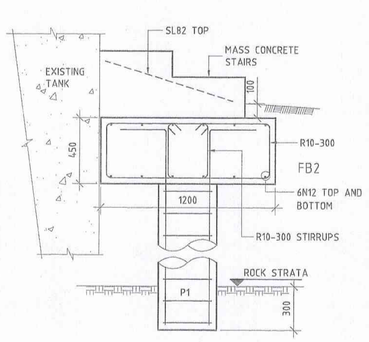
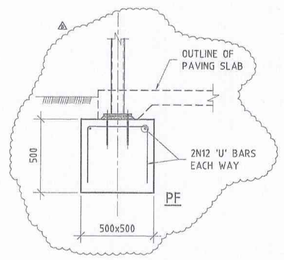


SECTION Y
SCALE = 1:10

TYPICAL SECTION THROUGH WALKWAY FRAME (SECTION X)
SCALE = 1:10



SECTION 2
SCALE = 1:20



SECTION 3
SCALE = 1:20

Issue	Reason for Issue	Drawn	Sign & Date Design Review	Sign & Date Verification
B	CC ISSUE AMMENDMENTS	AP	25-02-09	
A	CONSTRUCTION CERTIFICATE	AP	31-10-08	

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99 BEATTIE STREET, BLAMAIN, NSW 2041
Tel: 612 9555 6866 Fax: 612 9555 6877

Client: CRAIG PERKINS INVEST. PTY.LTD

Project: ALTERATION TO RESIDENCE
22 CHILTERN ROAD
INGLESIDE NSW

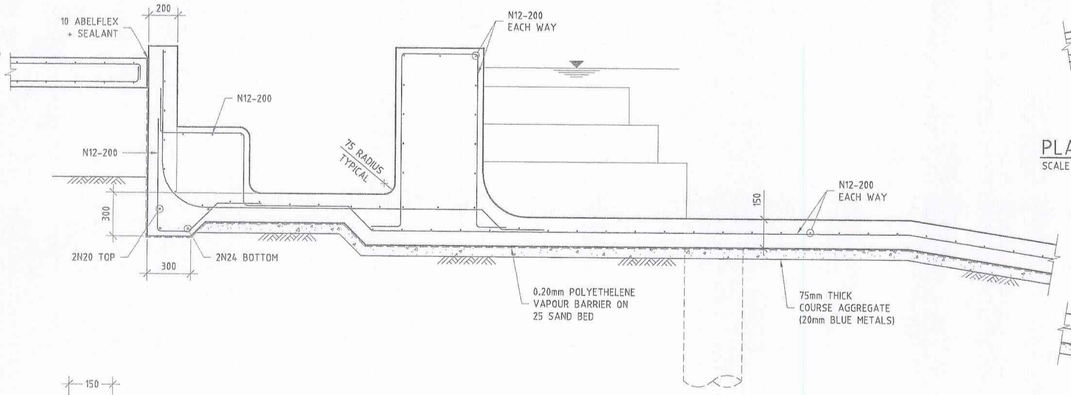
Title: WALKWAY FOOTING, FRAMING PLANS AND DETAILS

THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION UNLESS ENDORSED BELOW

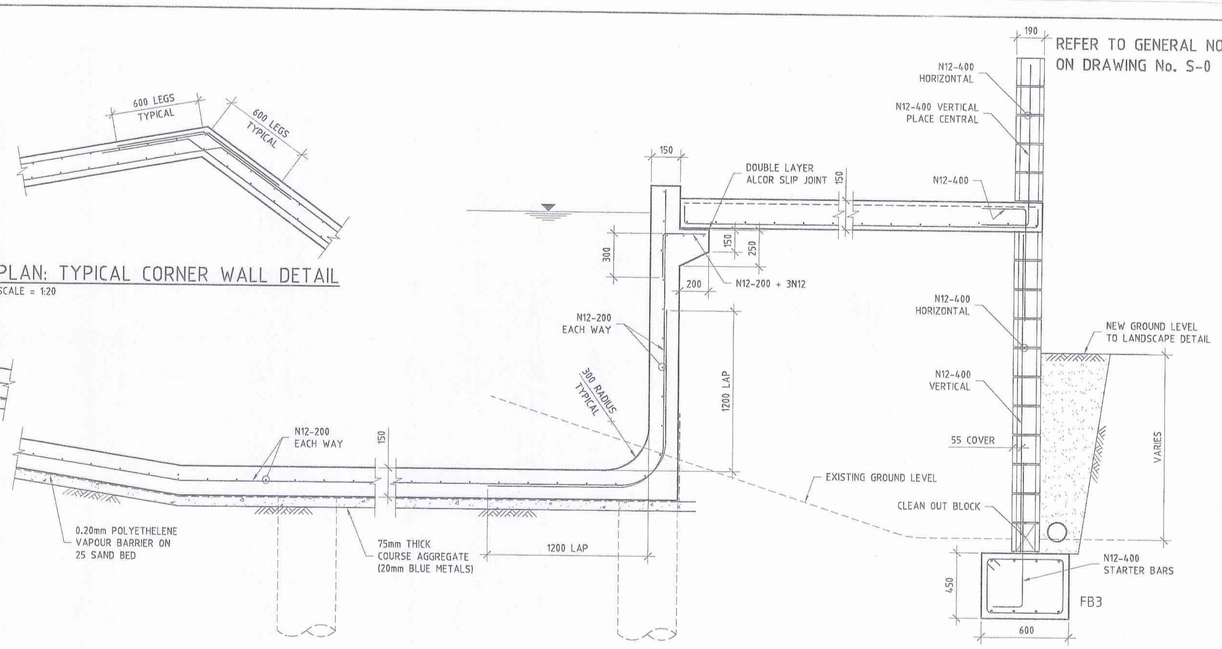
Date of release	Responsible Principal's Signature	Issue
25/02/09	BENJAMIN VINCENT BENVENUTI	

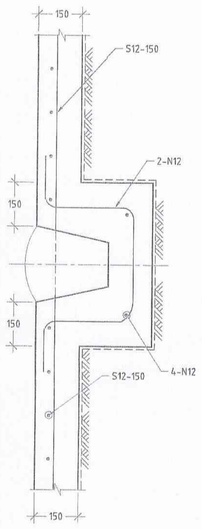
scales	job no.	drg no.	issue
1:100, 1:10	1226	S-13	B

REFER TO GENERAL NOTES ON DRAWING No. S-0

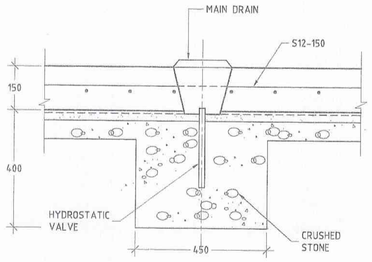


PLAN: TYPICAL CORNER WALL DETAIL
SCALE = 1:20





U.W. LIGTH DETAIL
SCALE = 1:10



MAIN DRAIN DETAIL
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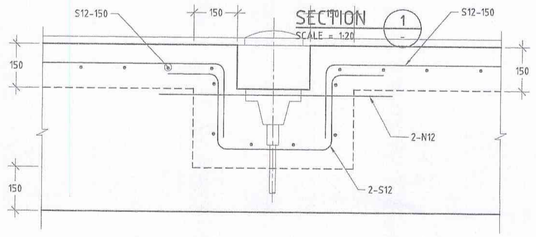
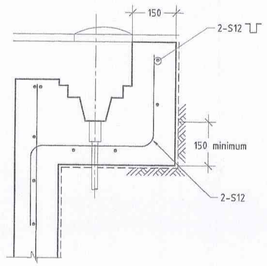
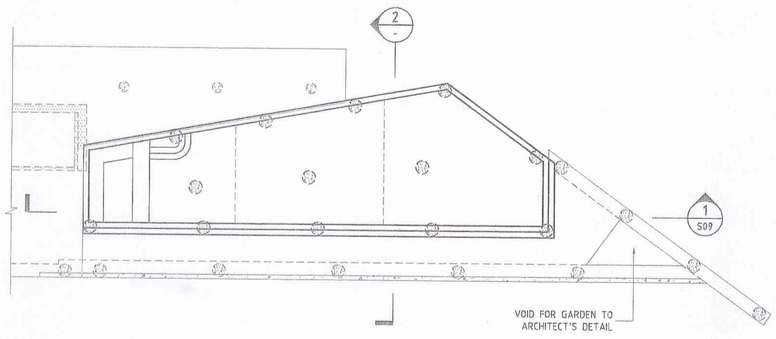


ELEVATION
SCALE = 1:10

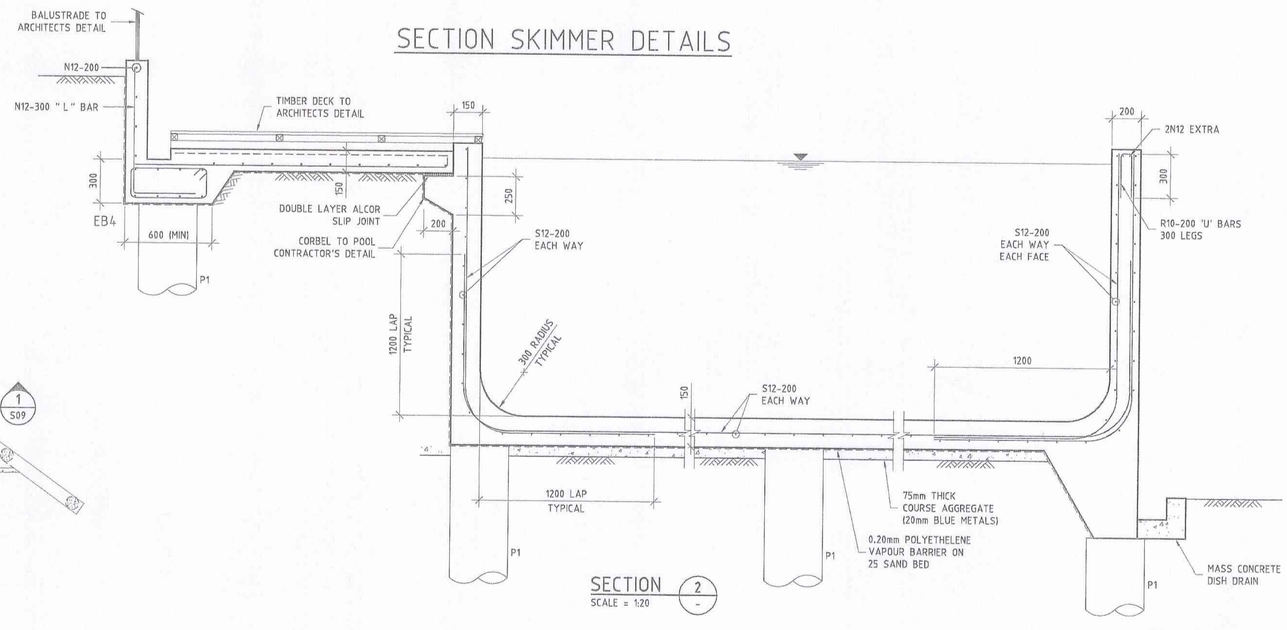


SECTION
SCALE = 1:10



POOL PLAN
SCALE = 1:100

SECTION SKIMMER DETAILS



SECTION 2
SCALE = 1:20

Issue	Reason for Issue	Drawn	Sign & Date Design Review	Sign & Date Verification
A	CONSTRUCTION CERTIFICATE	BS	25-02-09	

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Client: CRAIG PERKINS INVEST. PTY.LTD

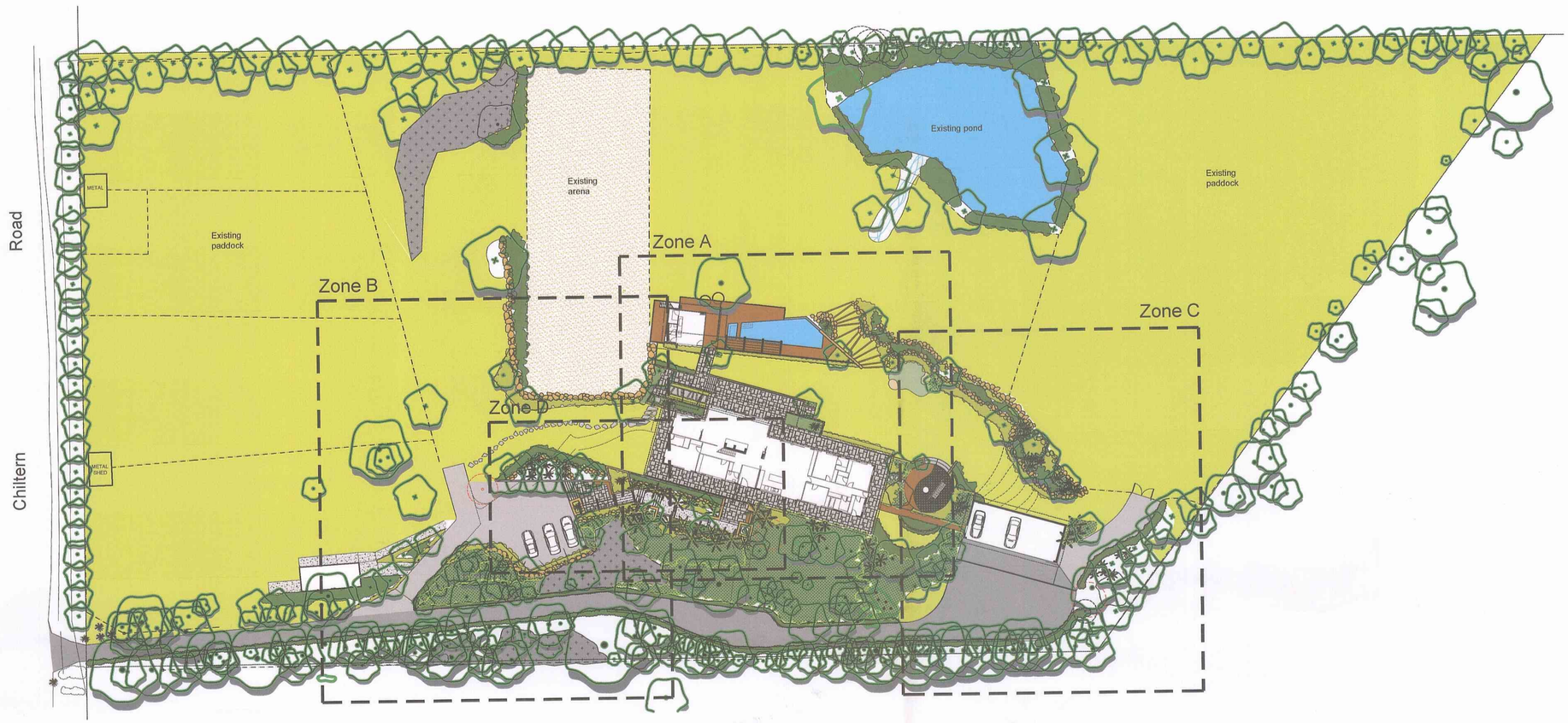
Project: ALTERATION TO RESIDENCE
22 CHILTERN ROAD
INGLESIDE NSW

Title: POOL PLAN AND DETAILS

THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION UNLESS ENDORSED BELOW

Date of release	Responsible Principal's Signature	Issue
25/02/09	BENVENUTI PEng NPER	

scales	Job no.	drg no.	Issue
1:100, 1:20	1226	S-14	A



Masterplan

1:400

Drawing schedule

Sheet 1: Masterplan
Sheet 2: Scope of works
Sheet 3: Zone A site plan
Sheet 4: Zone B site plan
Sheet 5: Zone C site plan
Sheet 6: Zone D site plan
Sheet 7: sedimentation contro plan
Sheet 8: Overall planting plan
Sheet 9: Zone A planting plan
Sheet 10: Zone B planting plan
Sheet 11: Zone C planting plan
Sheet 12: Zone D planting plan
Sheet 13: Vegetation plan
Sheet 14: Zone A lighting plan
Sheet 15: Zone B lighting plan
Sheet 16: Zone C lighting plan

Legend

- Existing trees to be removed
- Existing trees
- Proposed trees
- Tree Ferns
- Shrubs
- Steps up
- Tiles/pavers on concrete slab
- Groundcovers
- Existing paddock
- Lawn areas
- Timber decking
- Balustrading/fence
- Water
- Strip drainage grate Drainage pit
- Random square stone clad walls
- Stacked boulder 'rip-rap' retaining walls
- Retaining walls
- Proposed levels (21.20)
- Rock outcrops
- Picture legend
- Concrete
- Bitumen paving

Job/Perkins, Craig

PAUL SCRIVENER
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Project: Residential development at 22 Chiltern Road Ingleside

Dwg: Masterplan / sheet layout & calculations

Date: 26.02.09
Scale: 1:400@A1
Job Ref: 07/1297/CC1
Sheet No: 1 of 16
Issue: E
-

Builder must verify all dimensions of the site before work commences. Figured dimensions should be used in preference to those scaled off.

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Amendments

North

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Landscape specifications

Any discrepancies of information on plans not listed in the lists below to be clarified with Landscape Architect prior to tender price submission. Landscape Contractor to meet with Landscape Architect to review extent of works PRIOR to submission of tender price to ensure all necessary items are covered. Builing Contractor and Landscape Contractor to be familiarized with COMPLETE set of landscape documentation sheets.

Extent of hard works indicated on landscape plans to be installed / constructed by Building contractor

- Builder to provide all garden and earth levels outside of building lines to 300mm below finished levels between pool structure and house zone
- All structural walls, block walls, stone cladding and associated structures by builder.
- Pond structure and adjacent terraced garden by builder. Include submersible low voltage pump, submersible filter and associated pipe work. Install 20 x20 mosaic tile ti internal of pond. Allow $70m2 (+ GST). Capping to pond to match pavers with 20mm overhang. Locate 400 x 400 x 600 (approx) recess in pond base to house pump and filter as well as automatic top up water valve. Black painted galv. safety grate over. Pond depth max 290mm throughout. Allow for 30mm pipe in underside of pond wall under capping to allow for overflow of pond to garden.
- Builder to ensure all water proofing to all walls and structures where earth is installed against structures
- Garden lighting throughout. Refer to landscape lighting drawings this landscape set. Landscape lighting to be priced and installed by Building contractor.

Soft works and additional works to be installed by landscape contractor

- Landscape contractor to install all soft works, irrigation and associated works as indicated on landscape plans. Landscape Contractor to meet with Landscape Architect to review extent of works PRIOR to submission of tender price to ensure all necessary items are covered.
- Planting schedule as listed in individual planting plans
- Pond structure at north west corner and terraced garden by builder. Landscape contractor to install pumps, submerged filter and exteria UV filter and pipework. Landscape contractor to coordinate with builder to install supply and return pipes and external power to connect low voltage pump.
- Include information for m3 soil rate installed and overall estimation of required volumes
- Include full day labour rate for all qualified tradesman, supervisors and labourers
- Include all insurances, workcover details and relevant documentation for OHS training and certification.
- Ensure all items of the tender price are itemized and separately priced. Include all assumed volumes, areas and materials inclusions
- Include estimated period of installation
- Separate price to be included for maintenance works for 3 month establishment period commencing at date of practical completion

The following installation notations are to be adhered to.

1. Site preparation
Any existing trees and vegetation to be retained shall be preserved and protected from damage of any sort during the execution of landscape work. In particular, root systems of existing plants must not be disturbed if possible. Any nearby site works should be carried carefully using hand tools. To ensure the survival and growth of existing trees during landscaping works, protect by fencing where necessary. Trees shall not be removed or lopped unless specific written approval to do so is given or is indicated on plan. Storage of materials, mixing of materials, vehicle parking, disposal of liquids, machinery repairs and refueling, site office and sheds, and the lighting of fires shall not occur within three (3) metres of any existing trees. Do not stockpile soil, rubble or other debris cleared from the site, or building materials, within the dripline of existing trees. Vehicular access shall not be permitted within three (3) metres of any tree.

2. Soil preparation
All proposed planting areas to be deep ripped to 300mm and clay soils to be treated with clay breaker.. Mix with 25% A.N.L. Greenlife compost (or approved equivalent). Apply at least 300mm soil depth to all planting areas. Additional soil to be 200mm depth of good quality planting mix to be imported and combined with 100mm depth A.N.L. Greenlife compost or approved equivalent. To be worked in with rotary hoe. Care taken to hand cultivate in any area where existing tree roots exist to preserve health of trees. All soil to be free of all weed species.

3. New plantings
Newly planted trees and large shrubs should be secured to stakes with hessian ties to prevent rocking by wind. Planting holes for plant material should be large enough in size to take root ball with additional space to take back filling of good quality planting mix. Mature heights of planting as shown on planting schedule show the greatest height possible in ideal conditions. These heights are subject to particular site conditions, possible container environments and intended hedging or pruning for functional requirements such as available planting width, intended access under branches and solar access.

4. Mulching
All planting areas to be mulched with a minimum 100mm thick cover of Forest Fines litter mulch and then all plant areas to be thoroughly soaked with water. Mulch to be free of all weed species

5. Fertliser
All planting areas to be fertilised with 9 month 'NPK' slow release fertilizer as per construction specification.

6. Turfing
All nominated turfed areas to be soft leaf Buffalo. Install over 150mm high quality A.N.L turf underlay (or approved equivalent).

7. Staking
To those plants indicated on the planting schedules provide: hardwood stakes as nominated and driven into ground to a depth able to achieve rigid support.

8. Lighting
Garden lighting throughout. Refer to separate landscape lighting drawings this landscape set. Landscape lighting to be priced and installed by Building contractor.

9. Structural
All structural details whatsoever to Engineer's details. For works over top of existing round water tank concrete lid between house and garage to be installed ONLY after structural integrity of lid has been verified by Structural Engineer.

Timber structures

Timber works as follows:

Pool surrounds

Timber decking to be Northern Box. 150mm x 25mm milled down. Install on H4 minimum treated bearers and joists to timber construction code (refer to engineer's details). Posts and footings to Engineer's details. Oiled finish to be selected. All timber decking to have primer coat and 2 coats of oil prior to installation. Apply 2 two additional coats after installation.

Fix with 75mm flush finished stainless steel bugle screws. Ensure sub structure and joists configured to ensure straight runs of bugle screws when viewed from above. Stainless steel custom fascia plate (3mm) fixed to sub structure.

Timber walkway & timber deck over concrete lid

Timber walkway between garage and house to be Spotted Gum 150mm x 25mm milled down. Install on H4 minimum treated bearers and joists to timber construction code. Posts and footings to Engineer's details.

For curved deck over concrete lid to be installed on H4 timber battens (this structure for works over top of existing round water tank concrete lid between house and garage to be installed ONLY after structural integrity of lid has been verified by Structural Engineer).

Oiled finish to be selected. All timber decking to have primer coat and 2 coats of oil prior to installation. Apply 2 two additional coats after installation.

Fix with 75mm flush finished stainless steel bugle screws. Ensure sub structure and joists configured to ensure straight runs of bugle screws when viewed from above. Stainless steel custom fascia plate (3mm) fixed to sub structure.

Timber seats

Timber seating in front entry steps ('L shaped seat at first entry landing and seating bench adjacent to front entry water feature) to be Spotted Gum. 50 x 19 battens and 75mm fascia to be fixed to galv. Brackets fixed to stone clad block walls. Install brackets prior to the installation of cladding.

Oiled finish to be selected. All timber decking to have primer coat and 2 coats of oil prior to installation. Apply 2 two additional coats after installation.

Fix with flush finished stainless steel bugle screws.

Timber screens

Timber screens for drying area and adjacent to timber walkway between garage and house. Posts to be black painted galv. 75mm x 75mm posts to 2000mm high. Drying area screen to have base plate bolted to concrete lid (this structure for works over top of existing round water tank concrete lid between house and garage to be installed ONLY after structural integrity of lid has been verified by Structural Engineer).

Lawn area screen to have 75mm x 75 mm posts to 200mm high above lawn level. Install in concrete post hole footings (as specified by Structural Engineering)

Horizontal battens to be Spotted Gum. 50 x 19 battens 15mm spacing. Fix to posts with Fix with flush finished stainless steel bugle screws.

Oiled finish to be selected. All timber decking to have primer coat and 2 coats of oil prior to installation. Apply 2 two additional coats after installation.

Fix with flush finished stainless steel bugle screws.

Irrigation

Automatic watering system to be selected. To extend to all landscaped areas as indicated on sheet 8.

Generally: Supply an automatic watering watering using driplne irrigation system. To include all piping to solenoids either PVC lines and/or class 12 pressure pipe or low density, rubber modified polypropeyline reticulation as required. To include all bends, junctions, ends, ball valves, solenoids and all other ancillary equipment.
Backwash valve: An approved backwash prevention valve is to be located at the primary water source.

Pump. A supply pump is to be installed as required to be supplied by rainwater tanks located in sub floor areas. Pump to be sufficient to supply correct pressure to all nominated irrigation zones. Provide all necessary supply lines from tank as well as all other valves, overflow or other items to correctly operate the system.

(Builder to supply a proprietry 'townwater' top up valve to the rainwater tank to be calibrated on site to top up levels). Ascertain location of town water supply point and include extension of that water line to the rainwater tank.

Pump housing: Provide sound proof housing for pump in sub floor level at site to be determined.

Chemical root control: Provide standard chemical root inhibiting chemical cartdridge. These are to be industry standard, in-line replacable cartridges located for easy access for replacement cartridge installation
.

Automatic Controller: Provide 2 week scheduling and hourly multi-cycle operation. The controller shall have manual override, programming shall be undertaken by the Landscape Contractor who shall advise on the operation of the system. Provision of secure housing for the automatic irrigation controller to be located adjacent to the pump on the wall of the house near to the drying area. Location to be confirmed on site by the Landscape Architect.

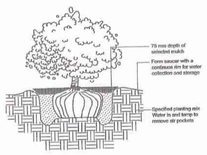
Performance: It shall be the Landscape Contractor's responsibility to ensure and guarantee satisfactory operation of the irrigation system. The system is to be fit for the purpose and should utilise sufficient solenoids to provide for the varying watering requirements of landscape areas to allow all plants and lawn areas to thrive and attain long term viability.

Testing: After the system has been installed to the satisfaction of the project manager, the installation shall be tested under working conditions. Acceptance of the installed plant and equipment shall be subject to these being satisfactory.

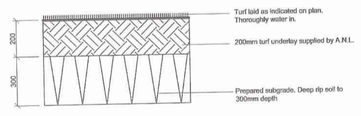
Warranty: A twelve month warranty is to be provided in writing by the Landscape Contractor, which shall commit the Landscape Contractor to rectify the system to the satisfaction of the project manager or nominated representative. This will apply should any fault develop, or the capacity or efficiency fall below that guaranteed, or should the discharge or pressure be inadequate, or should defects develop in the filter unit or control heads, or any blockages that may develop in the system.

Approvals: The Landscape Contractor is to liaise as necessary, to ensure that the irrigation system conforms with all Water Board, Council and Australian standards(AS)

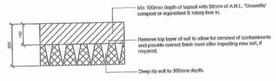
Shrub planting detail n.t.s



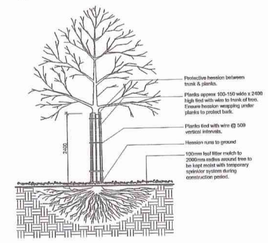
Turf over soil n.t.s



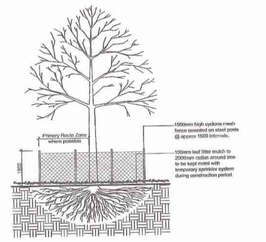
Soil preparation for compacted / poor soils n.t.s.



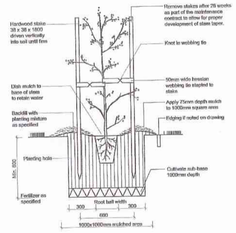
Tree protection measure
Type 1 n.t.s.



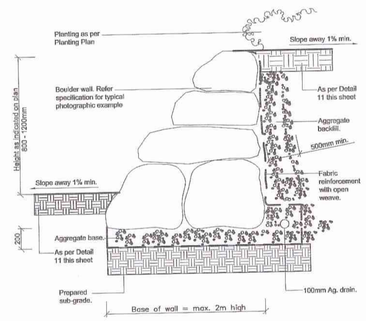
Tree protection measure
Type 2 n.t.s.



Tree planting detail n.t.s



Stacked boulder retaining wall n.t.s



Drawing schedule

Sheet 1: Masterplan
Sheet 2: Scope of works
Sheet 3: Zone A site plan
Sheet 4: Zone B site plan
Sheet 5: Zone C site plan
Sheet 6: Zone D site plan
Sheet 7: sedimentation contro plan
Sheet 8: Overall planting plan
Sheet 9: Zone A planting plan
Sheet 10: Zone B planting plan
Sheet 11: Zone C planting plan
Sheet 12: Zone D planting plan
Sheet 13: Vegetation plan
Sheet 14: Zone A lighting plan
Sheet 15: Zone B lighting plan
Sheet 16: Zone C lighting plan

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Project: Residential development at 22 Chiltern Road Ingleside

Dwg: Scope of works

Date: 26.02.09
Scale: -
Job Ref: 07/1297/CC2
Sheet No: 2 of 16
Issue: E

Builder must verify all dimensions of the site before work commences. Figured dimensions should be used in preference to those scaled off.

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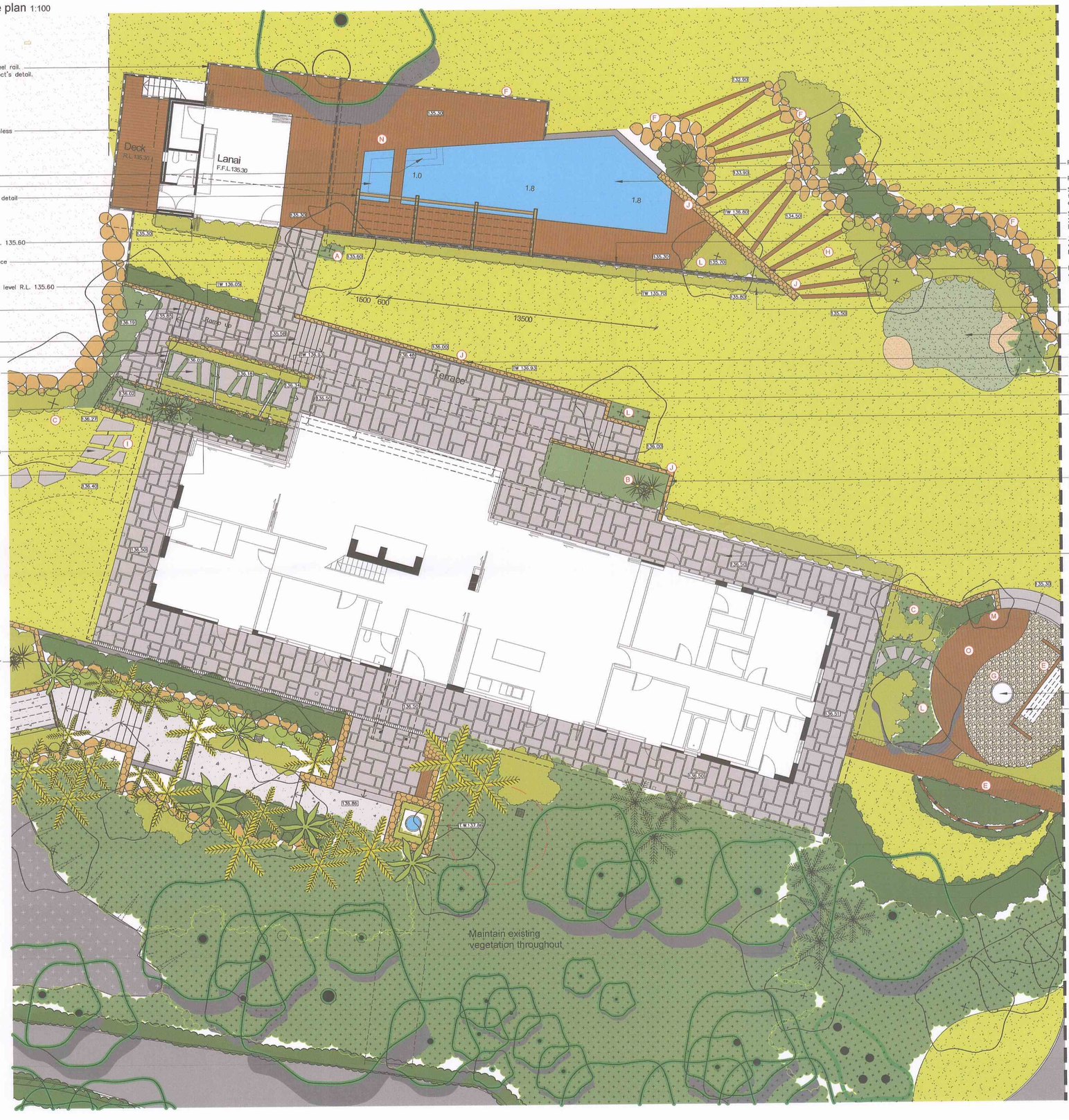
Amendments

North

Job/Perkins, Craig

Zone A - site plan 1:100



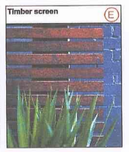
Frangipani (Plumeria spp.) A

Grass Trees (Xanthorrhoea spp.) B

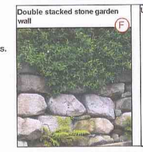
Tuckeroo (Cupaniopsis anacardioides) C

Bamboo (Alphonse karr) D

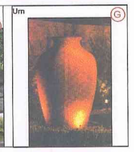
Timber screen E



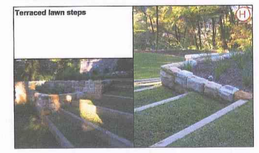
Double stacked stone garden wall F



Urn G



Terraced lawn steps H



Flush set stepping stones in lawn I

Dry Stone wall cladding J

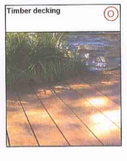
Terraced timber landing K

Old Man Banksia (Banksia serrata) L

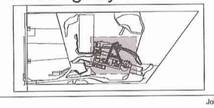
Blueberry Ash (Elaeocarpus reticulatus) M

Timber deck N

Timber decking O



Drawing key



Legend

- Existing trees to be removed
- Existing trees
- Proposed trees
- Tree Ferns
- Shrubs
- Steps up
- Tiles/pavers on concrete slab
- Groundcovers
- Existing paddock
- Lawn areas
- Timber decking
- Balustrading/fence
- Water
- Strip drainage grate Drainage pit
- Random square stone clad walls
- Stacked boulder 'rip-rap' retaining walls
- Retaining walls
- 21.29 Proposed levels
- Rock outcrops
- Picture legend
- Concrete
- Bitumen paving

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Project: Residential development at 22 Chiltern Road Ingleside

Dwg: Zone A - site plan

Date:	26.02.09	Scale:	1:100@A1
Job Ref:	07/1160/CC3	Sheet No:	3 of 16
Issue:	E		-

Builder must verify all dimensions of the site before work commences. Figured dimensions should be used in preference to those scaled off.

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Amendments

North

Job/Perkins, Craig

Zone B - site plan 1:100

Crepe Myrtle (Lagerstoemia indica) A

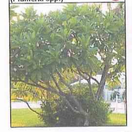
Multi stemmed Grass Tree (Xanthorrhoea spp.) B

Tuckeroo (Cupaniopsis anacardioides) C

Wild Iris (Dietes grandiflora) D

Coin Tree Fern (Cyathea australe) E

Frangipani (Plumeria spp.) F



Lomandra (Lomandra 'Tanika') G

Lomandra (Lomandra spp.) H

Flush set stepping stones in lawn I

Dry Stone wall cladding J

Double stacked stone garden wall K

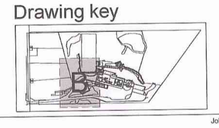
Old Man Banksia (Banksia serrata) L

Blueberry Ash (Elaeocarpus reticulatus) M

Mixed paving N

Spotted Gum (Corymbia maculata) O

Drawing key



Legend

- Existing trees to be removed
- Existing trees
- Proposed trees
- Tree Ferns
- Shrubs
- Steps up
- Tiles/pavers on concrete slab
- Groundcovers
- Existing paddock
- Lawn areas
- Timber decking
- Balustrading/fence
- Water
- Strip drainage grate / Drainage pit
- Random square stone clad walls
- Stacked boulder 'rip-rap' retaining walls
- Retaining walls
- Proposed levels (21.28)
- Rock outcrops
- Picture legend (I)
- Concrete
- Bitumen paving

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Project: Residential development at 22 Chiltern Road Ingleside

Dwg: Zone B - site plan

Date: 26.02.09 | Scale: 1:100@A1
Job Ref: 07/1160/CC4 | Sheet No: 4 of 16
Issue: E | -

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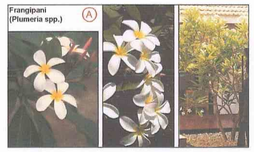
Amendments

North

Job/Perkins, Craig

Zone C - site plan 1:100

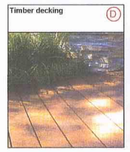
Frangipani (Plumeria spp.) A



Magnolia B

Tuckeroo (Cupaniopsis anacardioides) C

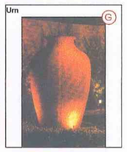
Timber decking D



Coin Tree Fern (Cyathea cooperii) E

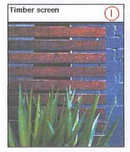
Semi-frameless stainless steel / glass balustrading F

Urn G

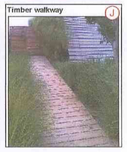


Terraced lawn steps H

Timber screen I



Timber walkway J



Dry Stone wall cladding K

Double stacked stone garden wall L

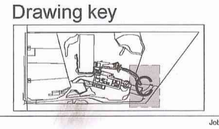
Old Man Banksia (Banksia serrata) M

Blueberry Ash (Elaeocarpus reticulatus) N

Mixed paving O

Lomandra (Lomandra spp.) P

Drawing key



Legend

- Existing trees to be removed
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- Proposed trees
- Tree Ferns
- Shrubs
- Steps up
- Tiles/pavers on concrete slab
- Groundcovers
- Existing paddock
- Lawn areas
- Timber decking
- Balustrading/fence
- Water
- Strip drainage grate / Drainage pit
- Random square stone clad walls
- Stacked boulder 'rip-rap' retaining walls
- Retaining walls
- RL 28 — Proposed levels
- Rock outcrops
- K — Picture legend
- Concrete
- Bitumen paving

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Project: Residential development at 22 Chiltern Road Ingleside

Dwg: Zone C - site plan

Date:	26.02.09	Scale:	1:100@A1
Job Ref:	07/1160/CC5	Sheet No:	5 of 16
Issue:	E		-

Builder must verify all dimensions of the site before work commences. Figured dimensions should be used in preference to those scaled off.

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Amendments

North

Job/Perkins, Craig

Zone D - site plan 1:100

Landscaped steps (A)

Frangipani (Plumeria spp.) (B)

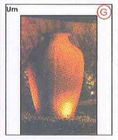
Bamboo (Alphonse karr) (C)

Tuckeroo (Cupaniopsis anacardioides) (D)

Coin Tree Fern (Cyathea cooperil) (E)

Lady Finger Palm (Rhapis excelsa) (F)

Urn (G)



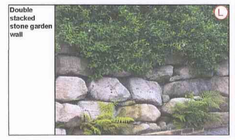
Gymea Lily (Doryanthes excelsa) (H)

Birds Nest Fern (Asplenium nidus) (I)

Multi stemmed Grass Tree (Xanthorrhoea spp.) (J)

Dry Stone wall cladding (K)

Double stacked stone garden wall (L)



Old Man Banksia (Banksia serrata) (M)

Blueberry Ash (Elaeocarpus reticulatus) (N)

Mixed paving (O)

Lomandra (Lomandra spp.) (P)

Drawing key

Legend

- Existing trees to be removed
- Existing trees
- Proposed trees
- Tree Ferns
- Shrubs
- Steps up
- Tiles/pavers on concrete slab
- Groundcovers
- Lawn areas
- Timber decking
- Balustrading/fence
- Water
- Strip drainage grate / Drainage pit
- Random square stone clad walls
- Stacked boulder 'rip-rap' retaining walls
- Retaining walls
- Proposed levels (21.23)
- Rock outcrops
- Picture legend (A)
- Concrete
- Bitumen paving

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Project: Residential development at 22 Chiltern Road Ingleside

Dwg: Zone D - site plan

Date: 26.02.09 | Scale: 1:100@A1

Job Ref: 07/1160/CC6 | Sheet No: 6 of 16

Issue: E | -

Builder must verify all dimensions of the site before work commences. Figured dimensions should be used in preference to those scaled off.

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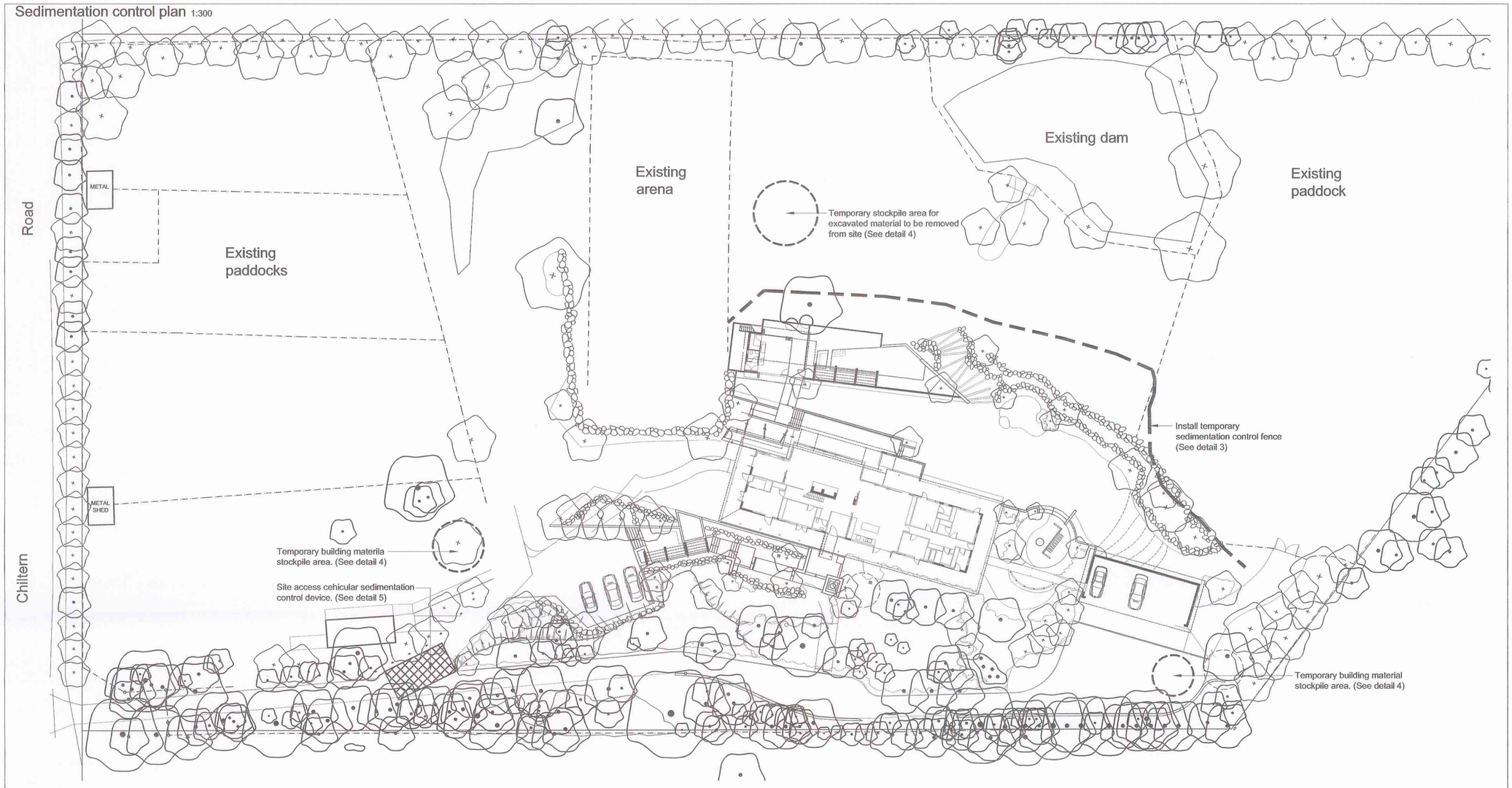
Amendments

North

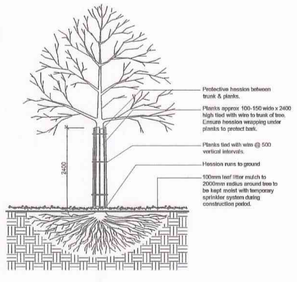
Job/Perkins, Craig

Sedimentation control plan 1:300



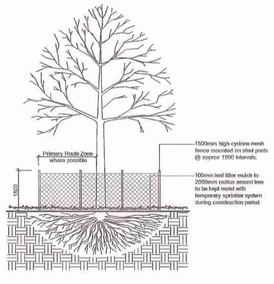
Detail 1

Tree protection measure
Type 1 n.t.s.



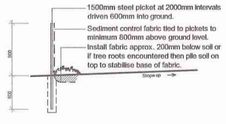
Detail 2

Tree protection measure
Type 2 n.t.s.



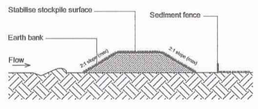
Detail 3

Sedimentation control fence



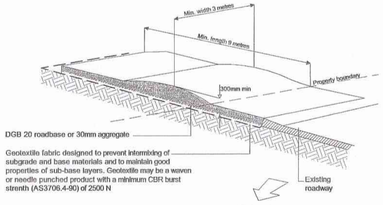
Detail 4

Temporary stockpile detail n.t.s.



Detail 5

Construction site access detail



Construction notes

1. Strip topsoil level site
2. Compact subgrade
3. Cover area with needle-punched geotextile.
4. Contruct 200mm thick pad over geotextile using roadbase or 30mm aggregate. Minimum lenmth 15 metres or to building aglignment. Minimum width 3 metres
5. Construct hump immediately within boundary to divert water to a sediment fence or other sediment trap

Notes

All work to be constructed to the requirements and satisfaction of the local Council

Soil stockpile areas to be installed as per detail

Before carrying out any internal stormwater pipe laying the drainage contractor is to locate all services on the route of the drainage outlet pipe to the kerb eg Gas, Electricity, Telstra, Water, Sewer and notify the engineer of any level conflicts

Silt fence to be constructed as per detail shown Or by using an approved equivalent measure. The silt fence is to be constructed prior to any other construction activities. It is to be kept in good working order at all times.

When approximately 30% full or as directed by Council's representative, the silt fences are to be cleared of silt and or other built up materials.

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Project: Residential development at 22 Chiltern Road Ingleside

Dwg: Sedimentation control plan

Date:	26.02.09	Scale:	1:300@A1
Job Ref:	07/1160/CC7	Sheet No:	7 of 16
Issue:	E		-

Builder must verify all dimensions of the site before work commences. Figured dimensions should be used in preference to those scaled off.

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Amendments

North

Job/Perkins, Craig

RECEIVED
11 MAR 2009
BY _____

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LONG SERVICE BUILDING & CONSTRUCTION

See reverse of form for instructions

LEVY PAYMENT FORM

FORM NO

OFFICE USE ONLY

PART A – DETAILS OF PERSON/COMPANY/ORGANISATION LIABLE TO PAY LEVY

PLEASE PRINT ALL DETAILS USING CAPITALS

Surname (if person) or Company/Organisation name: CRAIG PERKINS INVESTMENTS

Given names (if person): PTY LTD

POSTAL ADDRESS No and street or PO Box: 42 CHILTERN RD

INGLESIDE

Town/suburb:

State: NSW Postcode: 2101 Bus hours phone: 0419201111

PART B – ADDRESS OF BUILDING/CONSTRUCTION WORK

Number and street: 22 CHILTERN RD

Town/suburb: INGLESIDE

State: NSW Postcode: 2101

Estimated start date: D 14 M 03 Y 2009 Estimated finish date: D 01 M 02 Y 2010

PART C – DETAILS OF WORK – To be completed by consenting/certifying authority with whom plans lodged for approval

Local Council Area: PITTWATER COUNCIL

[1] DA/CC/CDC No: N0373/08

Estimated value of work (see note on back): $ 368850.00 Levy payable $ 12666.00

[1] If you have provided a CC above please provide DA number here N0373/08

Name of Officer/Private Certifier: S. PINN BBO326. Business hours phone: 99990003 (02)

PART D – DETAILS – To be completed by Dept/Authority where applicable – see reverse

Department/Authority:

Contract/DA No (circle which):

Contract amount $ .00

Levy payable $ .00

Contact person (Print): _____ Phone number:

Contact person (Signature): _____ Date D M Y

PART E – DECLARATION – To be signed by person liable to pay levy or authorised officer if company/organisation

Any false or misleading information provided on this form may result in prosecution under Section 58A

I hereby declare that the information provided on this form is true and correct to the best of my knowledge

Name CRAIG PERKINS INVESTMENTS PTY LTD Signature _____ Date D 07 M 03 Y 2009

PART F – TO BE COMPLETED WHERE APPLICABLE – SEE REVERSE

Exemption Approval Certificate No _____

COPY

Building and Construction Industry Long Service Payments Corporation Locked Bag 9000 Central Coast MC NSW 2252
Tel 13 14 41 Fax (02) 9287 5685 Email levy@lspc.nsw.gov.au www.lspc.nsw.gov.au ABN 93 646 090 808

R – 256 299
$12.666.00 11/03/09

BASIX Certificate

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

Alterations and Additions

Certificate number: A39566

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 Alterations and Additions Definitions" dated 29/9/2006 published by Department of Planning. This document is available at www.basix.nsw.gov.au

Director-General
Date of issue: Friday, 08, August 2008

NSW GOVERNMENT
Department of Planning

Description of project

Project address	
Project name	Ingleside House
Street address	22 Chiltern Road Ingleside 2101
Local Government Area	Pittwater Council
Plan type and number	Deposited Plan 598867
Lot number	1
Section number	0
Project type	
Dwelling type	Separate dwelling house
Type of alteration and addition	My renovation work is valued at $50,000 or more, and includes a pool (and/or spa).

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Pool and Spa	Show on DA Plans	Show on CC/CDC Plans & specs	Certifier Check
Rainwater tank			
The applicant must install a rainwater tank of at least 4703 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 rainwater runoff from at least 670 square metres of roof area.		✓	✓
The applicant must connect the rainwater tank to a tap located within 10 metres of the edge of the pool and outdoor spa.		✓	✓
Outdoor swimming pool			
The swimming pool must be outdoors.	✓	✓	✓
The swimming pool must not have a capacity greater than 95 kilolitres.	✓	✓	✓
The applicant must install a pool pump timer for the swimming pool.		✓	✓
The applicant must not incorporate any heating system for the swimming pool that is part of this development.		✓	✓
Outdoor spa			
The spa must not have a capacity greater than 2.5 kilolitres.	✓	✓	✓
The spa must have a spa cover.		✓	✓
The applicant must install a spa pump timer.		✓	✓
The applicant must install the following heating system for the outdoor spa that is part of this development: gas.		✓	✓

Fixtures and systems	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: gas instantaneous.	✓	✓	✓
Lighting			
The applicant must ensure a minimum of 40% of new or altered light fixtures are fitted with fluorescent, compact fluorescent, or light-emitting-diode (LED) lamps.		✓	✓
Fixtures			
The applicant must ensure new or altered showerheads have a flow rate no greater than 9 litres per minute or a 3 star water rating.		✓	✓
The applicant must ensure new or altered toilets have a flow rate no greater than 4 litres per average flush or a minimum 3 star water rating.		✓	✓
The applicant must ensure new or altered taps have a flow rate no greater than 9 litres per minute or minimum 3 star water rating.		✓	

Construction	Show on DA Plans	Show on CC/CDC Plans & specs	Certifier Check
Insulation requirements			
The applicant must construct the new or altered construction (floor(s), walls, and ceilings/roofs) in accordance with the specifications listed in the table below, except that a) additional insulation is not required where the area of new construction is less than 2m2, b) insulation specified is not required for parts of altered construction where insulation already exists.	✓	✓	✓

Construction	Additional insulation required (R-value)	Other specifications
concrete slab on ground floor.	nil	
floor above existing dwelling or building.	nil	
external wall: brick veneer	R1.16 (or R1.70 including construction)	
external wall: framed (weatherboard, fibro, metal clad)	R1.30 (or R1.70 including construction)	
flat ceiling, pitched roof	ceiling: R0.95 (up), roof: foil backed blanket (75 mm)	medium (solar absorptance 0.475 - 0.70)
raked ceiling, pitched/skillion roof: framed	ceiling: R1.24 (up), roof: foil backed blanket (75 mm)	medium (solar absorptance 0.475 - 0.70)
flat ceiling, flat roof: framed	ceiling: R1.08 (up), roof: foil backed blanket (75 mm)	medium (solar absorptance 0.475 - 0.70)

Glazing requirements	Show on DA Plans	Show on CC/CDC Plans & specs	Certifier Check
Windows and glazed doors			
The applicant must install the windows, glazed doors and shading devices, in accordance with the specifications listed in the table below. Relevant overshadowing specifications must be satisfied for each window and glazed door.	✓	✓	✓
The following requirements must also be satisfied in relation to each window and glazed door:		✓	✓
Each window or glazed door with improved frames, or pyrolytic low-e glass, or clear/air gap/clear glazing, or toned/air gap/clear glazing must have a U-value and a Solar Heat Gain Coefficient (SHGC) no greater than that listed in the table below. Total system U-values and SHGCs must be calculated in accordance with National Fenestration Rating Council (NFRC) conditions. The description is provided for information only. Alternative systems with complying U-value and SHGC may be substituted.		✓	✓
For projections described as a ratio, the ratio of the projection from the wall to the height above the window or glazed door sill must be at least that shown in the table below.	✓	✓	✓

Windows and glazed doors glazing requirements

Window / door no.	Orientation	Area of glass inc. frame (m2)	Overshadowing Height (m)	Overshadowing Distance (m)	Shading device	Frame and glass type
W1	S	3.6	0	0	projection/height above sill ratio >=0.43	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)
W2	SW	4.5	0	0	projection/height above sill ratio >=0.43	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)
W3	S	0.7	0	0	projection/height above sill ratio >=0.43	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)
W4	S	8.1	0	0	projection/height above sill ratio >=0.43	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)
W5	S	4.3	0	0	projection/height above sill ratio >=0.43	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)
W6	W	3.3	0	0	projection/height above sill ratio >=0.43	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)
W7	W	0.9	0	0	projection/height above sill ratio >=0.43	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)

Glazing requirements							Show on DA Plans	Show on CC/CDC Plans & specs	Certifier Check
Window / door no.	Orientation	Area of glass inc. frame (m2)	Overshadowing Height (m)	Overshadowing Distance (m)	Shading device	Frame and glass type			
W8	W	6.3	0	0	projection/height above sill ratio >=0.43	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)			
W9	N	10.3	0	0	projection/height above sill ratio >=0.43	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)			
W10	W	9.1	0	0	projection/height above sill ratio >=0.43	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)			
W11	N	28.4	0	0	projection/height above sill ratio >=0.43	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)			
W12	N	6.8	0	0	projection/height above sill ratio >=0.43	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)			
W13	E	8.9	0	0	projection/height above sill ratio >=0.43	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)			
W14	N	6.5	0	0	projection/height above sill ratio >=0.43	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)			
W15	N	1.7	0	0	projection/height above sill ratio >=0.43	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)			
W16	N	12.5	0	0	projection/height above sill ratio >=0.43	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)			
W17	NE	2.8	0	0	projection/height above sill ratio >=0.29	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)			
W18	N	6.4	0	0	projection/height above sill ratio >=0.43	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)			
W19	N	0.7	0	0	projection/height above sill ratio >=0.43	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)			
W20	NE	2.8	0	0	projection/height above sill ratio >=0.29	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)			

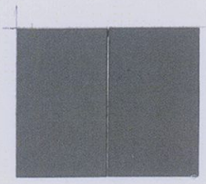
Glazing requirements							Show on DA Plans	Show on CC/CDC Plans & specs	Certifier Check
Window / door no.	Orientation	Area of glass inc. frame (m2)	Overshadowing Height (m)	Overshadowing Distance (m)	Shading device	Frame and glass type			
W21	N	6.4	0	0	projection/height above sill ratio >=0.43	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)			
W22	E	1.7	0	0	projection/height above sill ratio >=0.43	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)			
W23	E	2.2	0	0	projection/height above sill ratio >=0.43	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)			
W24	E	1.9	0	0	projection/height above sill ratio >=0.43	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)			
W25	S	1.7	0	0	projection/height above sill ratio >=0.43	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)			
W26	SE	2.8	0	0	projection/height above sill ratio >=0.29	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)			
W27	S	6.7	0	0	projection/height above sill ratio >=0.43	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)			
W28	S	8.3	0	0	projection/height above sill ratio >=0.43	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)			
W29	SE	2.8	0	0	projection/height above sill ratio >=0.29	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)			
W30	S	2.7	0	0	projection/height above sill ratio >=0.43	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)			
W31	N	3.6	0	0	projection/height above sill ratio >=0.43	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)			
W32	N	2.1	0	0	projection/height above sill ratio >=0.43	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)			
W33	S	3.3	0	0	projection/height above sill ratio >=0.43	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)			

Glazing requirements							Show on DA Plans	Show on CC/CDC Plans & specs	Certifier Check
Window / door no.	Orientation	Area of glass inc. frame (m2)	Overshadowing Height (m)	Overshadowing Distance (m)	Shading device	Frame and glass type			
W34	S	2.8	0	0	projection/height above sill ratio >=0.29	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)			
W35	W	2	0	0	projection/height above sill ratio >=0.43	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)			
W36	W	4	0	0	projection/height above sill ratio >=0.43	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)			
W37	W	4.2	0	0	projection/height above sill ratio >=0.43	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)			
W38	N	12.8	0	0	projection/height above sill ratio >=0.43	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)			
W39	N	2.8	0	0	projection/height above sill ratio >=0.29	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)			
W40	E	4.1	0	0	projection/height above sill ratio >=0.43	timber or uPVC, single pyrolytic low-e, (U-value: 3.99, SHGC: 0.4)			

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 & 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 for the development may be issued.

Alterations + additions to residence
22 Chiltern Road Ingleside

External materials + finishes

Item	Material	Finish/colour	Colour sample
Ground floor External walls	Paint finished cement rendered masonry	Paint Dulux Master Palette Stonehenge Shadow	
	Paint finished FC (window spandrel)		
Verandah eaves	Paint FC	White	
First floor External walls	Clear finished hardwood timber weatherboards		
Roofing + eaves gutters	Corrugated Colorbond steel	Colorbond Windspray	
Roofing 1st floor	Spandek Colorbond steel	Colorbond Windspray	
First floor Pitched roof	Spandek Colorbond steel	Colorbond Windspray	
Roof lights Entry roof	Spandek Colorbond steel	Colorbond Windspray	
Windows + doors	Clear finished aluminium	Clear anodised	
External blinds	Adjustable timber blinds	Oiled timber	
First floor handrail	Stainless steel wires		
Pool fence+ Lanai deck balustrade	Clear toughened glass		

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Alterations to residence
22 Chiltern Road Ingleside

Building Construction requirements
AS 3959 – 1999 Construction of buildings in bush fire prone areas

Item	Level 1 All other elevations and elevations to outbuildings	Level 2 South elevation dwelling	Notes	Comments
			No fire retardant treated material are available	
Floor	Slab on ground	As for level 1	Existing and new slabs on ground and suspended	
Timber posts	- Non combustible - Fir retardant timber for min 400 above ground - Galv steel shoe min 75 above finish level	As for level 1	Existing timber post replace with steel	Retain existing timber post New posts to south elevation steel
External Wall	– Masonry construction – Framed wall including breather sarking flammability index not more 5 OR Insulation as above – No restrictions on cladding	As for level 1	Ground floor – masonry and fibre cement – Sarking over stud fame First floor – Stud frame – Sarking	
External Wall Cladding	No restrictions on cladding except combustible cladding less than 400 off finished ground – Protected for first 400 by covering with non combustible material – Substituting first 400 with non combustible material or fire retardant timber	As for level 1	Ground floor – masonry and fibre cement – Sarking over stud fame First floor – Stud frame – Sarking – Timber cladding	First floor – Timber cladding to south elevation above verandah roof allowable
External windows	Openable windows incl louvres – screened with corrosion	As for level 1 except – No aluminium mesh	– All windows and doors except dwelling south	South elevation windows timber frame including external doors

COPY

Item	Level 1 All other elevations and elevations to outbuildings	Level 2 South elevation dwelling	Notes	Comments
	resistant steel bronze or aluminium mesh Max aperture 1 8mm sq	– Timber to be fire retardant timber	elevation can be timber but screened – Bifold doors to Family and Lanai ??? Not able to be screened Revise to alternative system hinged or sliding	required to comply Steel aluminium OR fire resistant hardwood included in NSW RFS list Toughened glass required to doors to comply with Glass in buildings AS1288 Screens not required to fixed glass windows OR bifold doors Roof lights to north and south elevation of dwelling (4 off) are glazed to south north and east elevations Screens to openable windows
External doors	Openable windows incl louvres – screened with corrosion resistant steel bronze or aluminium mesh Max aperture 1 8mm sq – tight fitting weather strips at foot of door	As for level 1 except – No aluminium mesh – Timber to be fire retardant timber	See windows	External doors generally proposed as glazed timber framed in timber window frames See above Solid core doors are permissible
Vents + weepholes	Protect with spark guards corrosion resistant steel bronze or aluminium mesh Max aperture 1 8mm sq	As for level 1 except – No aluminium mesh	Weepa weepholes with bronze spark guards	
Roofs	– Non combustible roofing – Roof wall junction sealed non combustible material OR eaves lining – Sarking flammability index not more 5	As for level 1	Colorbond steel roofs and zinc clad roofs comply Note sealed all round	

Item	Level 1 **All other elevations and elevations to outbuildings**	Level 2 **South elevation dwelling**	Notes	Comments
	– Sealed at ridges + hips with compressed mineral wool – Sealed at eaves with profile neoprene seal or compressed mineral wool NOTE provide ventilation to roof space to prevent condensation			
Roof ventilators	– Non combustible material – screened with corrosion resistant bronze or aluminium mesh Max aperture 1 8mm sq	As for level 1		
Eaves	– Enclosed – gaps between rafters sealed	As for level 1 except – Timber eaves lining fire retardant timber	All eaves except dwelling south elevation can be timber ???	Verandah to south elevation of the dwelling is currently not lined If plywood required to be fire resistant/fire retardant otherwide FC
Fascias	No requirements	– All material non combustible or fire retardant timber	All fascias except dwelling south elevation can be timber ???	Ex fascia to south elevation of the dwelling permitted Alterations to the fascia need to comply
Gutters + down pipes	Leaf guards flammability index not more 5	As for level 1	Metal leaf guards	
Decks Spaced timbers	– Min 5 mm spacing to decking timbers – Perimeter not enclosed or access unimpeded – Timbers not connect with remainder of the building to prevent spread of flame	As for level 1 except – decking fire retardant timber	Timber decking to pool surround??? Hardwood laid over suspended concrete slab???	The pool surround and external decking to Lanai is proposed to be ex 150 x 25 northern box hardwood timbers laid over concrete suspended deck permitted

Item	Level 1 All other elevations and elevations to outbuildings	Level 2 South elevation dwelling	Notes	Comments
Service pipes	Exposed water and gas – metal – buried to min depth 300 mm	As for level 1		

BENVENUTI S C PTY LTD
CONSULTING STRUCTURAL ENGINEERS
ACN 082 755 646 ABN 35 082 755 646

Suite 12 2 Beattie Street Balmain NSW 2041
Ph 61 2 9818 7513 Fax 61 2 9818 7512
Email benvenuti@bigpond com au

Leahey Architects
64 Beattie Street
Balmain NSW 2040

16/11/08
our ref 1226descert

Re Proposed alterations and additions to the existing residence at 22 Chiltern Road, Ingleside NSW

As part of the structural design for the proposed alterations and additions as noted on the architectural drawing No s 0707-22B,25B-30B prepared by Leahey Architects we have inspected the existing premises for structural assessment

We have assessed the structure in terms of it's adequacy to undergo the proposed alterations and reconfiguration of structural load paths

It is to be understood, by all parties involved, that during the process of any alterations and additions, to an existing structure, the redirection of load paths and additional loadings is an inevitable result of any form of structural alteration

Although all care and consideration has been given in the preparation of the detailing and specifications, noted on the structural documentation below, to minimise damage to the existing walls, the construction process may cause some differential movement and minor settlement to occur that may result in minor cracks to appear in the walls and finishes It is our professional opinion that, should this occur, these will only be temporary, in nature, until all reaction loads have equalised

It is our professional opinion that the performance of the existing structures will be in compliance with the Performance criteria of AS2870, Appendix B and will adequatelv support the proposed new intended loads, subject to compliance with the structural design recommendations as noted on our drawings noted below and the enclosed pamphlet No 10-91, by CSIRO, "Guide to home owners on foundation maintenance and footing performance"

The structural documentation relevant to the above certification is noted as structural drawing Nos S0, S01, S02, S03, S04, S05, S06, S07, S08, S09, S10, S11, S12, S13 and S14 for our job No 1226

Should you have any queries please do not hesitate to contact the undersigned

Yours Faithfully
Benvenuti S C Pty Ltd

Ruggero Benvenuti
B E M I E Aust C P Eng NPER

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GEOTECHNICAL RISK MANAGEMENT POLICY FOR PITTWATER
FORM NO 2 – To be submitted with detailed design for construction certificate

Development Application for Cosheg Architects
(Name of Applicant)

Address of site 22 Chiltern Road, Ingleside

Declaration made by Structural or Civil Engineer in relation to the incorporation of the Geotechnical issues into the project design

I RUGGERO BENVENUTI (insert name) on behalf of BENVENUTI S L. PTY LTD (trading or company name)

on this the 10/02/09 (date)

certify that I am a Structural or Civil Engineer as defined by the Geotechnical Risk Management Policy for Pittwater I am authorised by the above organization/company to issue this document and to certify that the organization/company has a current professional indemnity policy of at least $2million I also certify that I have prepared the below listed structural documents in accordance with the recommendations given in the Geotechnical Report for the above development

Geotechnical Report Details

Report Title Geotechnical, Wastewater + Stormwater Assessment
Report Date July 2008
Author Mr Mark Teren @ Martens + Assoc

Structural Documents list

S0, S01, S02, S03, S04, S05, S06, S07, S08, S09
S10, S11, S12, S13
SEE ALSO ATTACHED TRANSMITTAL

I am also aware that Pittwater Council relies on the processes covered by the Geotechnical Risk Management Policy including this certification as the basis for ensuring that the geotechnical risk management aspects of the proposed development have been adequately addressed to achieve an Acceptable Risk Management" level for the life of the structure taken as at leas 100 years unless otherwise stated and justified

RUGGERO BENVENUTI
(name) (signature)

Declaration made by Geotechnical Engineer or Engineering Geologist in relation to Structural Drawings

I prepared and/or technically verified the abovementioned Geotechnical Report as per Form 1 dated and now certify that I have viewed the above listed structural documents prepared for the same development. I am satisfied that the recommendations given in the Geotechnical Report have been appropriate taken into account by the structural engineer in the preparation of these structural documents

I am aware that Pittwater Council relies on the processes covered by the Geotechnical Risk Management Policy including this certification as the basis for ensuring that the geotechnical risk management aspects of the proposed development have been adequately addressed to achieve an Acceptable Risk Management" level for the life of the structure taken as at least 100 years unless otherwise stated and justified in the Report and that reasonable and practical measures have been identified to remove foreseeable risk.

Signature
Name Dr Daniel Martens
Chartered Professional Status CPEng, NPER, F/E Aust
Membership No 2185379

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Adopted 5 November 2007
In Force from 3 December 2007

LEAHEY ARCHITECTS

27 February 2009
0707055

The General Manager
Pittwater Council
PO Box 882
Mona Vale NSW 1660

Dear Sir

Alterations and Additions to residence
22 Chiltern Road Ingleside
DA N 0373/08

I refer to DA consent conditions Section C item 7 and 8 re proposed AWTS system

The details submitted by Martens for DA indicated that a new AWTS system would be installed

The existing system was found to be satisfactory and is proposed to be reused Copies of NSW Health Certificate of Accreditation and manufacturers details are attached

Details of pool waste water treatment and irrigation for AWTS system are on Martens drawing Waste Water Irrigation drawing number P0802138JD01 (issue rev 3 for CC)

Should you have any questions or require additional information please contact the undersigned

Yours faithfully
Leahey Architects Pty Ltd

Gary Leahey

Encl
Copy Ms Laura Summerhayes and Mr Craig Perkins

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Leahey Architects Pty Ltd ACN 060 170 836 Gary Leahey B Arch ARAIA Registration no 4163
99 Beattie Street Balmain NSW 2041 Telephone 02 9555 6866 Facsimile 02 9555 6877

NSW HEALTH

Certificate of Accreditation

Aerated Wastewater Treatment System

This Certificate of Accreditation is hereby issued by the Director-General of the NSW Department of Health pursuant to Clause 41(1) of the Local Government (General) Regulation 2005

System ***Aqua-Nova 3000 (plastic tanks) AWTS***

Manufacturer ***Everhard Industries Pty Ltd***

Of ***405 Newman Road, Geebung, QLD, 4034***

This is to certify that the Aqua-Nova 3000P AWTS as described in Schedule 1, has been accredited as a sewage management facility for use in a single domestic premises in NSW. This accreditation is subject to the conditions of accreditation and permitted uses specified in Schedule 2, and in accordance with the Sewage Management Facility Accreditation Guideline, May 2005

Director Environmental Health Branch
for Director-General (delegation PH335)

Date of Issue 1 December 2005 *Certificate No 4WTS 006*

This Certificate of Accreditation is in force until 31 December 2010

Schedule 1 Specification

Aqua-Nova (plastic tanks) Aerated Wastewater Treatment System

General Description

The Aqua-Nova 3000P Aerated Wastewater Treatment System (AWTS) is designed to treat the wastewater from a residential dwelling occupied by a maximum of 8 persons. The Aqua-Nova 3000P AWTS is contained in a vertical axis type cylindrical tapered injection moulded polypropylene septic tank and collection well each with a design capacity of 3000. The operational water level in the system is 1350 mm. The system consist of

- A primary sedimentation tank with a capacity of 3000 litres
- A secondary treatment tank with a capacity of 3000 litres fitted with a polymer inner chamber and containing
    - A contact aeration chamber with a capacity of 2035 litres containing the submerged contact media
    - A sedimentation/clarifier chamber with a capacity of 420 litres,
    - An irrigation pump chamber with a capacity of 383 litres incorporating a capacity of 300 litres for chlorine contact of the effluent
- A chlorine disinfection unit installed on the outlet of the clarifying chamber
- Air is supplied to the contact aeration chamber by a Rietschle Thomas LP100 air blower or equivalent, producing an airflow of a nominal 100 litres/minute at 1.5 m water depth,
- An Grundfos model 600A submersible irrigation pump or equivalent

Schedule 2 Conditions of Accreditation

1 0 General

1 1 For each installation the owner-occupier of a premises shall make an application to the Local Authority to install a Aqua-Nova 3000P AWTS as a waste management facility in accordance with Section 68, Part C of the Local Government Act 1993 and Clause 28 of the Local Government (General) Regulation 2005

1 2 The Aqua-Nova 3000P AWTS shall be supplied constructed and installed in accordance with the design as submitted and accredited by the NSW Department of Health

1 3 Any modification or variations to the accredited design of the Aqua-Nova 3000P AWTS shall be submitted for separate consideration and variation of the Certificate of Accreditation by the Director-General of the NSW Department of Health

1 4 Each Aqua-Nova 3000P AWTS shall be permanently and legibly marked on a non-corrosive metal plaque or equivalent attached to the lid with the following information

- The brand name of the system,
- The manufacturer's name or registered trademark,
- The month and year of manufacture

1 5 The manufacturer shall supply with each Aqua-Nova 3000P AWTS an owner's manual which sets out the care, operation maintenance and on-going management requirements of the system

1 6 The manufacturer shall provide the following information to each local authority where it is intended to install an AWTS in their area once Departmental accreditation has been obtained

- Statement of warranty
- Statement of service life
- Quality Assurance Certification
- Installation Manual
- Service Manual
- Owner's Manual
- Service Report Form
- Engineering Drawings on A3 format
- Detailed Specifications
- A4 Plans
- Accreditation documentation from NSW Health

2 0 Installation and Commissioning

2 1 The Council should require that on completion of the installation of the Aqua-Nova 3000P AWTS the system is inspected and checked by the manufacturer or the manufacturer's agent The manufacturer or the agent is to certify that the system has been installed and commissioned in accordance with its design conditions of accreditation and any additional requirements of the Council

2 2 The Council should require that all electrical work must be carried out by a licensed electrician and in accordance with the relevant provisions of AS/NZS 3000

3 0 Maintenance

3 1 The Council shall require the owner/occupier of a premises to enter into an annual service contract with a representative of Everhard Industries Pty Ltd or a service contractor or company acceptable to the Council

3 2 The Aqua-Nova 3000P AWTS shall be serviced at three monthly intervals in accordance with the details set out in the owner's and service manual

3 3 Each three monthly service shall include a check on all mechanical electrical and functioning parts of the system including

- The chlorinator and replenishment of the disinfectant
- Pumps, air blower fan or air venturi
- The alarm system,
- Slime growth on the filter media
- Operation of the sludge return system,
- The effluent irrigation area
- On-site testing for free residual chlorine, pH and dissolved oxygen

3 4 The Council should require that a service report sheet, in triplicate, is completed for each service The original shall be given to the owner, the duplicate forwarded to the Council and the triplicate retained by the service contractor

4 0 On-going Management

4 1 The owner's manual prepared by the manufacturer shall contain a plan for the on-going management of the Aqua Nova 3000P AWTS The plan shall include details of

- the treatment process
- procedures to be followed in the event of a system failure
- emergency contact numbers
- maintenance requirements
- inspection and sampling procedures to be followed as part of the on-going monitoring program developed by the local authority

4 2 Effluent from the Aqua-Nova 3000P AWTS taken in any random grab sample shall comply with the following standard

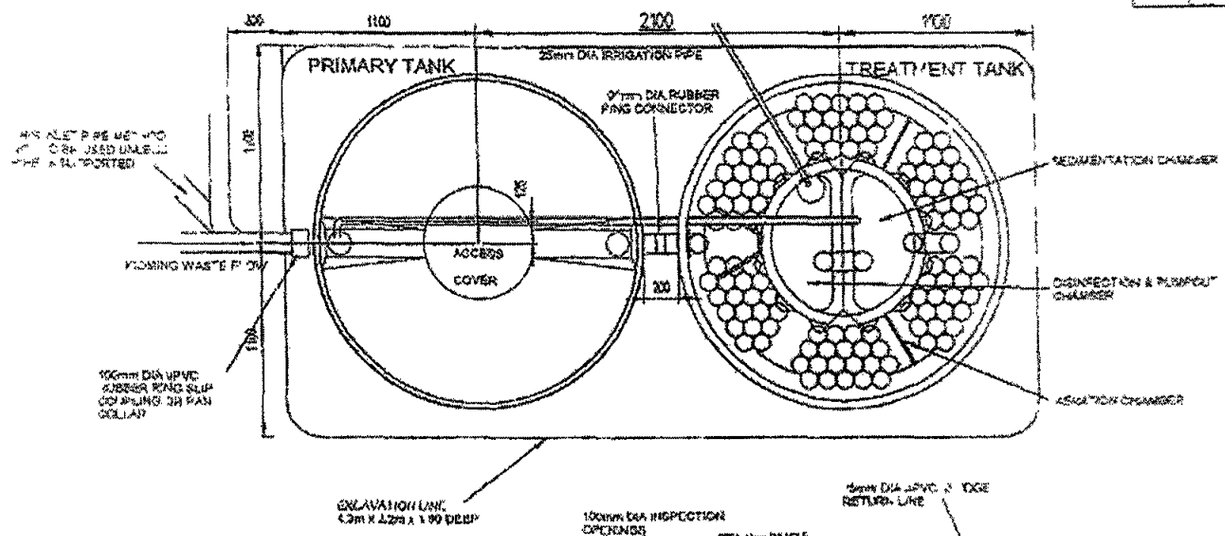
- BOD^5 (less than 30 mg/L)
- SS (less than 45 mg/L)
- Thermotolerant coliforms (less than 100 cfu/100 ml)
- Free residual chlorine (greater than 0 2 and less than 2 0 mg/L)

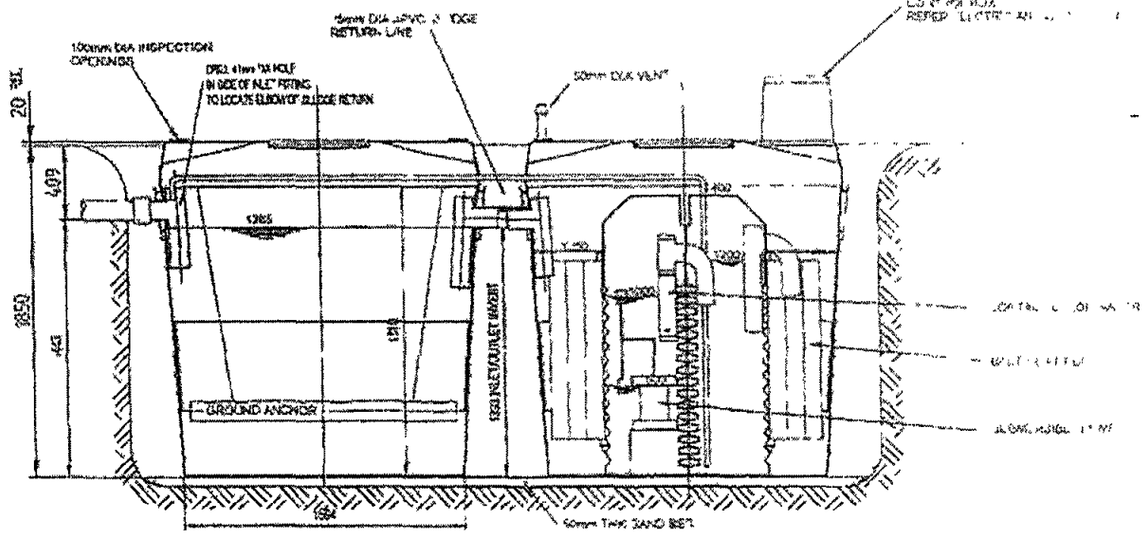
5 0 Permitted uses

5 1 The effluent is suitable for re-use for garden purposes by way of any of the forms of irrigation as described in AS/NZS 1547 2000

- above ground spray irrigation, or
- surface drip irrigation covered by mulch, or
- sub-surface drip irrigation installed at around 100 mm depth

Each of the three forms of irrigation is subject to the approval of the Council





TANK INSTALLATION AND PLUMBING TO BE IN ACCORDANCE WITH PLUMBING INSTRUCTIONS PROVIDED WITH SYSTEM

APPROVED
- 1 DEC 2005

ADVANCED AWTS SYSTEM
2 x 3000 l POLYMER TANK SYSTEM
ALL APPROVED

EVERHARD INDUSTRIES PTY LTD

RECEIVED
19 MAR 2009
BY:_____

NICK FADEEV
CIVIL & TRAFFIC ENGINEERING CONSULTANT

16 March 2009

Our Ref: 9001

CONSTRUCTION TRAFFIC MANAGEMENT PLAN
FOR
DEVELOPMENT AT 22 CHILTERN ROAD, INGLESIDE

Introduction

I have been engaged by Gary Leahey Architects to prepare this Construction Traffic Management Plan, to satisfy condition D8 of Consent N0373/08 for alterations and additions to the existing dwelling including new garage, swimming pool, wastewater management system and associated landscaping works on this site. I have viewed the plans and read the conditions of Consent. The construction contractor is Moulds Constructions.

The Site and Locality

I have carefully examined the site including the prevailing road conditions and report the following;

1. The property is located almost at the end Chiltern Road, 1.3km north of Mona Vale Road. See Attachment 1 - Locality Map.
2. Chiltern Road is accessed directly off Mona Vale Road.
3. For trucks leaving the site and turning right from Chiltern Road onto Mona Vale Road, there is good visibility of oncoming vehicles from the west and a merging lane for merging with traffic coming from the east.
4. There is a private school in Chiltern Road near its intersection with Mona Vale Road, which is sign posted with a 40km/h School Zone.
5. Chiltern Road is sign posted with a 3 tonne load limit.
6. The only other way of reaching the property is via Cicada Glen Road, which also has a 3 tonne load limit between Walter Road and Chiltern Road.
7. The condition of the road pavement in Chiltern Road appears to be reasonable without any substantive failures or obstacles which would cause traffic safety issues.
8. The width of the road pavement is sufficient to allow for two vehicles to pass.
9. The property is in a locality described as Non-Urban Land with large property blocks of a semi rural nature. As such there are not many dwelling houses on Chiltern Road between Mona Vale Road and the subject site, and those that are visible from the road are generally well set back.
10. Traffic volumes in Chiltern Road are very low, particularly north of Cicada Glen Road. (Note: traffic counts have not been carried out)

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ABN 35 060 260 828
103 Essilia Street, Collaroy Plateau. NSW 2097
Phone: 02 9971 7562. Mobile 0418 462 829 Email: fadeev@optusnet.com.au

Assessment of Access Options
The only practical means of access to and from the site is via Chiltern Road directly to and from Mona Vale Road. Although Chiltern Road is sign posted with a 3 tonne load limit, there is no other alternate access route. No purpose would be served in requiring trucks to use Cicada Glen Road in lieu of Chiltern Road, as it also has a 3 tonne load limit, and the turn at the intersection of Cicada Glen Road with Chiltern Road would be very difficult for a truck due to the narrow nature of the intersection and prevailing gradients, making the manoeuvre unsafe, and a safety hazard for other vehicles using these roads.

Due to the locality of the subject site, being one property from the end of Chiltern Road, there is very little traffic in this section of Chiltern Road. This combined with approximately 100m of site distance in each direction, provides safe truck access to and from the site without the need for traffic control. See attached photos.

I am therefore satisfied that Chiltern Road will provide a suitable and relatively safe roadway for construction vehicles to and from the subject site.

Site Operations and Construction Traffic
I have been provided the following information by the project's construction contractor;

- *The duration of the project is 60 weeks*
- *Approximately 40 x 12 tonne truck loads of excavation/ demolition materials during the first 5 weeks*
- *Approximately 25 x 10 tonne delivery trucks for timber, reinforcing steel, roofing and other hardware.*
- *Approximately 40 x 20 tonne trucks delivering concrete in 6 main pours.*
- *Approximately 5 x 20 tonne trucks delivering steel for the structure*
- *Approximately 3 x 20 tonne trucks delivering bricks/ blocks, etc.*
- *Approximately 5 crane lifts with a 20 tonne crane.*
- *Materials will be stored on site and delivery trucks will have direct and easy access in and out of the site which will have minimal to nil effect on daily traffic.*
- *All waste materials will be taken to Kimbriki Waste Depot which is also accessed directly off Mona Vale Road.*
- *On average there will be 10-12 workers on site each day, generating 6-8 vehicles. These vehicles will be parked on site, not on Chiltern Road.*

Demolition/ excavation trucks – 40 movements over a 5 week period equates on average to less than 2 truck movements per working day, with no more than 8 truck movements on any one day, or the equivalent of one every hour. This is considered to be a relative minor impact, and unlikely to create any significant impact on other property owners or road users.

Concrete trucks - 40 deliveries over 6 main pours, equates to approximately 7 trucks per pour. Each pour would be carried out on a single day, as quickly as it takes to discharge and place 7 trucks. On average each load would take approximately 30 mins to discharge and place. Thus each pour should take approximately 3.5 hrs with delivery truck movements at 30 min intervals. Each delivery also involves a return movement, ie 14 truck movements to and from the site. Given the relatively short duration over which these truck

movements will occur, they are unlikely to create any significant impact on other property owners or road users.

Other trucks/ cranes - 38 movements will be spread out over the remaining 54 week construction period. On average this equates to less than one truck movement per week. These truck movements will have an imperceptible impact on other property owners or road users.

The subject property is 2.2 hectares in area, with a frontage of 100m to Chiltern Road. The existing house is well within the body of the land, and is accessed by a sealed driveway approximately 150m long. As the the land is quite large with enough area to contain stockpiles of all waste and new construction materials, it would not be necessary or practical to store materials within Council's roadway. All loading and unloading will be carried out entirely within the site boundaries. The land is also large enough for workers vehicles to be parked on the site and not on Chiltern Road. I therefore concur with the advice provided by the contractor regarding these matters, and no Council permits will be required for this purpose.

Construction Traffic Management Plan (CTMP)

1. Construction traffic with a gross weight in excess of 3 tonne travelling to and from the site, is to only use Chiltern Road between Mona Vale Road and the site.
2. Construction traffic with a gross weight in excess of 3 tonnes is not to use Cicada Glen Road for access to or from the site.
3. It is noted that Chiltern Road has a 3 tonne load limit, and for this reason a copy of this report should be provided to Council at the discretion of the Private Certifier.
4. No waste or new construction materials are to be stockpiled or stored within Council's roadway (Chiltern Road).
5. Where possible all workers are to park their vehicles within the subject site. Any workers vehicles parked within Chiltern Road, should be parked north of the entrance to the subject site, so as not to interfere with truck movements and/or the safety of other road users.
6. During the construction period, the shortest frequency of truck deliveries to the site is predicted to be 30 mins during the pouring of concrete.
7. The greatest number of truck deliveries on any one day is also predicted to be during the pouring of concrete, with a total of 7 deliveries and 7 returns over a 3.5 hr period.
8. All other truck movements will not be of frequency which should cause any significant impact on other property owners or road users.
9. All truck movements should be restricted to the approved working hours, unless otherwise approved by the Private Certifying Authority.
10. All waste from the site is to be taken to Kimbriki Waste Depot.

Certification

I am a practicing consultant Civil Engineer with in excess of 30 years experience in local government civil design, including extensive experience in the assessment and design of safe pedestrian and vehicular access, parking and other traffic matters associated with residential and commercial development. I hold a degree in Civil Engineering with a post graduate diploma in Local Government Engineering, and am a member of the Institution of

NICK FADEEV

CIVIL & TRAFFIC ENGINEERING CONSULTANT

Engineers Australia and the Local Government Engineers Association.

I certify that the above CTMP has been prepared with careful consideration of all prevailing conditions, appropriate standards and legislation, and will provide for suitable management of all construction traffic to and from the subject site during the construction period, with minimal to nil impact on other property owners and road users.

Should clarification of any aspect of this advice be required, please do not hesitate to contact the undersigned on mobile ph. 0418 462 829.

Yours faithfully

NICK FADEEV B.Sc(Civil Eng), Dip.LGEng, MIEAust.

NOTE:

1. This report and CTMP has been prepared in part relying on information supplied by the Contractor for this project (second party). Should any of the information supplied by the second party, found to be inaccurate, then this report and CTMP are to be considered invalid, and should not to be relied upon in any subsequent actions.
2. Where conditions during the construction period necessitate an increase to the number or frequency of truck movements, then this CTMP should be reviewed and modified by the author before proceeding further with the works, unless otherwise approved by the Private Certifying Authority.

ABN 35 060 260 828
103 Essilia Street, Collaroy Plateau. NSW 2097
Phone: 02 9971 7562. Mobile 0418 462 829 Email: fadeev@optusnet.com.au

NICK FADEEV
CIVIL & TRAFFIC ENGINEERING CONSULTANT

ATTACHMENT 1

LOCALITY MAP

ABN 35 060 260 828
103 Essilia Street, Collaroy Plateau. NSW 2097
Phone: 02 9971 7562. Mobile 0418 462 829 Email: fadeev@optusnet.com.au

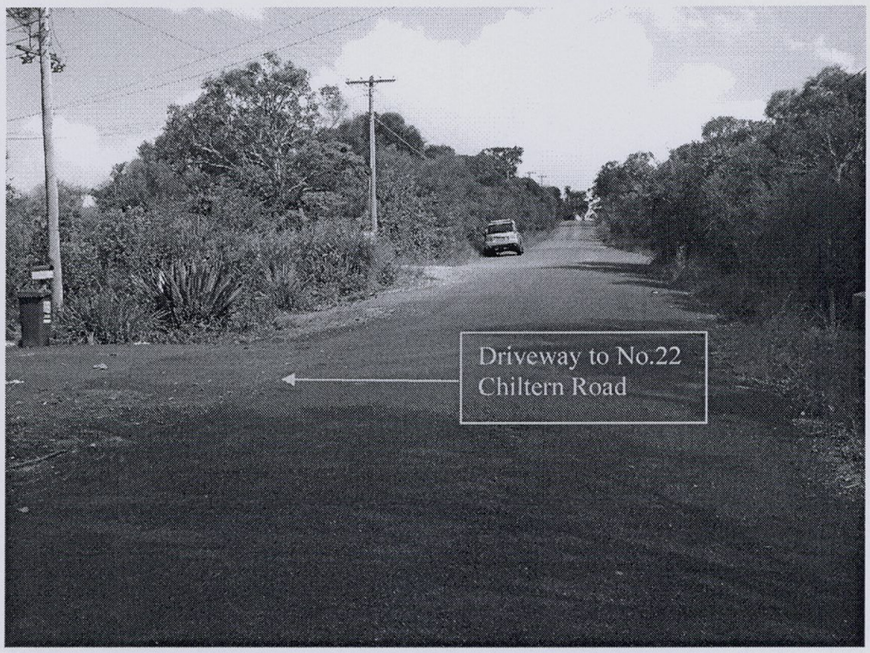


PHOTO 1 - CHILTERN ROAD LOOKING SOUTH TOWARDS MONA VALE ROAD

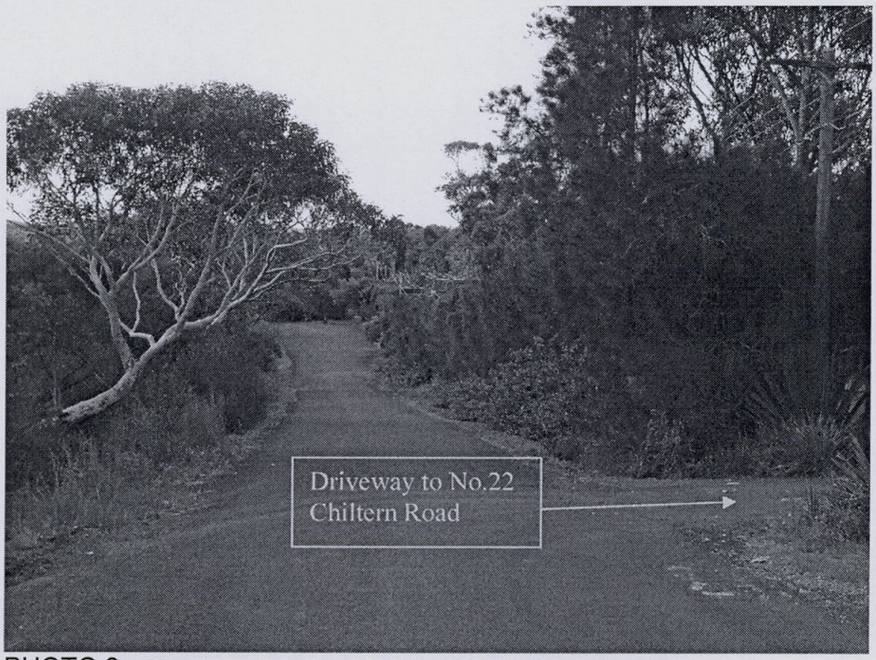


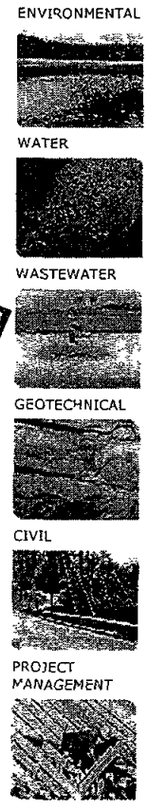
PHOTO 2 - CHILTERN ROAD LOOKING NORTH TO DEAD END

PHOTO 3 - BATTLE-AXE HANDLE CONTAINING DRIVEWAY TO BODY OF SITE

Leahey Architects

Erosion and Sediment Management Plan 22 Chiltern Road, Ingleside, NSW

martens consulting engineers



COUNCIL

P0802138JR03_V1
February 2009

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Limitations Statement

The sole purpose of this report and the associated services performed by Martens & Associates Pty Ltd is to prepare an Erosion and Sediment Management Plan in accordance with the scope of services set out in the contract / quotation between Martens & Associates Pty Ltd and Leahey Architects (hereafter known as the Client) That scope of works and services were defined by the requests of the Client by the time and budgetary constraints imposed by the Client and by the availability of access to the site

Martens & Associates Pty Ltd derived the data in this report primarily from a number of sources which may include for example site inspections correspondence regarding the proposal examination of records in the public domain interviews with individuals with information about the site or the project and field explorations conducted on the dates indicated The passage of time manifestation of latent conditions or impacts of future events may require further examination / exploration of the site and subsequent data analyses together with a re evaluation of the findings observations and conclusions expressed in this report

In preparing this report Martens & Associates Pty Ltd may have relied upon and presumed accurate certain information (or absence thereof) relative to the site Except as otherwise stated in the report Martens & Associates Pty Ltd has not attempted to verify the accuracy of completeness of any such information (including for example survey data supplied by others)

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Document and Distribution Status								
Author(s)			Reviewer(s)		Project Manager		Signature	
Matthew Butler			Daniel Martens		Andrew Norris			
Revision No	Status	Release Date	Document Location					
			File Copy	Master Copy	Leahey Architects			
1	Draft	20 02 2009	1E 1P		1P			
2	Final							

Distribution Types F = Fax H = hard copy P = PDF document E = Other electronic format Digits indicate number of document copies

All enquiries regarding this project are to be directed to the Project Manager

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1 Overview

1 1 Background

This report has been prepared to provide details of erosion and sediment management strategies that are to be employed to appropriately manage construction works at 22 Chiltern Road Ingleside NSW

It is our understanding that the development proposal includes alterations and additions to the existing house including

- Rearrangement of internal walls so that the completed residence will have a total of five bedrooms
- Addition of an upper level containing one bedroom with ensuite a study and a verandah
- Effluent re-use system
- Additional rainwater storage tanks
- Swimming pool and lanai (furnished verandah)
- Carport and garage

1 2 Objectives

The objectives of this plan are as follows

- Ensure waterways watercourses drainage systems and the public domain are protected from the transportation of sedimentation from the development site
- Reduction of waste throughout all phases of development
- Ensure public safety
- Protection of the local environment and public domain

A site plan showing erosion and sediment management measures and the proposed development is provided in Attachment A

2 Erosion and Sediment Management

2 1 Schedule of Works

Site works shall be conducted in such a way that impacts on the local environment are minimised during and following construction works All work is to be completed in accordance with Pittwater Council DCP (2008) Section B8 2 and Landcom (2004) *Managing Urban Stormwater – Soils and Construction Volume 1* The following general schedule of works should be adhered to where feasible

1) Temporary sediment and erosion control measures are to be installed around the extent of site disturbance / earthworks prior to commencement of any site clearing works (as shown on Attachment A) All required sediment and erosion control measures are to be constructed in accordance with Landcom (2004) guidelines

2) Sediment fences are to be installed immediately after or before (if possible) sediment stockpiles are created

3) Topsoil is to be stripped from all excavation areas and stockpiled for later use

4) All access roads and sediment and erosion measures are to be monitored and maintained as necessary through-out construction

5) Once site works are concluded for a certain area site revegetation and / or rehabilitation works (to be completed by others) should be completed for that area as early as possible This includes the establishment of vegetation cover in all areas where soils are exposed to prevent soil erosion

6) Site temporary sediment erosion control measures and stormwater diversion measures may only be removed once activities that may cause site disturbances have been completed and site vegetation has been adequately established This may be staged across the site

2 2 Sediment and Erosion Control Measures

Site sediment and erosion control measures shall include the following temporary measures

1) Silt fences are to be installed downslope of all site areas that are to be disturbed These shall be supported by star pickets driven to a minimum of 600 mm depth and spaced at a maximum of 3m centres The base of all silt fencing should be buried to a minimum depth of 100 mm to ensure that trapped sediments are not permitted to be carried underneath silt fences Fences are to be in accordance with the standard drawing in the attached plan set

2) Sediment fences are to be constructed upslope of sediment stockpiles

3) Sediment stockpiles are to be stabilised by temporary vegetation if the life of the stockpile exceeds 3 months

2 3 Establishment of Stockpiles

All excavated topsoil and subsoil material to be kept for re-use on-site is to be stockpiled as follows

- Located as shown in Attachment A at least two (2) meters from any hazard area (including surfaces with grades greater than 15% zones of concentrated stormwater flow driveways and/or temporary vehicular access ways footpaths nature strips kerbline gutters open swales and the drip zone of trees)

- Sediment fencing to be installed on all downslopes and upslopes

2 4 Extent of Excavations and Earthworks

The extent of site excavations and earthworks is to be limited to the areas marked on construction plans drawn by Leahey Architects

2 5 Site Vegetation Clearance

Clearance of site vegetation that has been marked to be cleared and approved in the site DA is to be undertaken in such a way to minimise site disturbance where possible Removed vegetation that is suitable for mulching or chipping for reuse in site landscaping works is to be mulched / chipped and stockpiled in appropriate stockpile areas prior to use Remaining vegetation that has been cleared is to be transported off site to an appropriate waste reclamation/ management facility

3 Schedule of Inspection

During site construction works regular site inspections should be undertaken by the Site Foreman as follows

- After placement of temporary sediment control fences and designated stockpile areas
- During site earthworks / excavations where erosion and sediment loss issues may arise (e g during heavy rain)
- Weekly inspection of sediment control fences and following periods of rainfall exceeding 10 mm
- After completion of revegetation and / or rehabilitation works to ensure adequate ground cover has been established prior to removal of sediment control measures

4 References

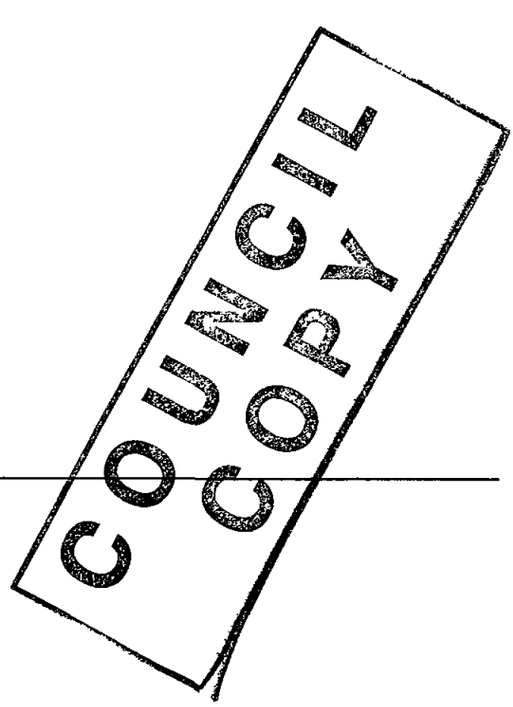
Landcom (2004) *Managing Urban Stormwater – Soils and Construction Volume 1* 4th Edition March 2004

Pittwater Council DCP (2008) *Section B8 2 Construction and Demolition – Erosion and Sediment Management/ Waste Minimisation/ Site Fencing and Security*

SPECIFICATIONS for

ALTERATIONS TO RESIDENCE

22 Chiltern Road Ingleside NSW



LEAHEY ARCHITECTS PTY LTD

99 Beattie Street Balmain NSW 2041
Telephone 02 9555 6866
Facsimile 02 9555 6877

Date 30th October 2008 Revised tender 10 February 2009
0707specTender_081116

THE WORK	
The building work described in the building contract dated	Alterations to residence
No/street	22 Chiltern Road
Suburb/town	Ingleside NSW
Municipality	Pittwater
Reference to title	
Lot/position	Lot 1
Deposited Plan (DP)	DP 598867
Volume	
Folio	

THE PARTIES	
Owner(s)	Craig Perkins Investments Pty Ltd
Address	22 Chiltern Road Ingleside NSW
Australian Business Number (ABN)	46 066 219 092
Builder	Moulds Constructions Pty Ltd
Address	5 Kuyora Place Elanora Heights NSW 2101
Australian Business Number (ABN)	22 051 418 216
Licence/registration number	20748C

SIGNATURES
Owner(s)
Date
Builder
Date

Revision	**Date**	**Approved by**
Tender addendum 1 *Refer Tender addendum for* revised page numbers	16 November 2008	GL
Revised tender revisions to specification	10 February 2009	GL

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0171 GENERAL REQUIREMENTS

1 GENERAL

1 1 APPLICABILITY

General

Requirement Adopt *General requirements* as appropriate in all worksections

1 2 GENERAL

Signs

General Provide a signboard displaying the lot number the builder s name address and licence number and the BCA accreditation authority address and contact details if required

Occupied premises

General For the parts of the site which are occupied premises

Allow occupants to continue in secure possession and occupancy of portion of site the required period

Make available safe access for occupants

Arrange work to minimise nuisance to occupants and ensure their safety

Protect occupants against weather dust dirt water or other nuisance by such means as temporary screens

Area of occupation

- Shed adjacent driveway concrete driveway and paddocks to west and north with access from concrete driveway
- Parking area adjacent proposed Garage to park horse float

Period of occupation duration of contract

Survey marks

Care Preserve and maintain the survey marks in their true positions

Rectification If the owner s survey marks are disturbed or obliterated immediately give notice and rectify the disturbance or obliteration

Prior applications and approvals

~~DA application made to Council awaiting approval~~

Site restrictions

Restricted hours of work Refer to DA consent

Energy efficiency

Energy efficiency approval commitments Refer to attached BASIX certificate dated 8 th August 2008

Dilapidation record

Purpose Use the dilapidation record to assess the damage and making good arising out of demolition and construction work

Making good Make good any damage to public and private roadways driveways road crossings and the like arising out of demolition work Obtain written acceptance from the owner of each adjoining property of completeness and standard of making good where required

Security

General Maintain security to the whole site including paddocks for duration of the Contract

1 3 STANDARDS

Current editions

General Use referenced Australian or other standards (including amendments) BCA state and territory variations which are current three months before the date of the contract except where other editions or amendments are required by statutory authorities

1 4 INTERPRETATION

Definitions

General For the purposes of this document the definitions given below apply

Owner Means the same as principal or proprietor

Builder Means the same as contractor

Metallic-coated Steel which has been coated with zinc zinc-iron alloy or aluminium-zinc alloy via a continuous hot dip process

Professional engineer Means a person who is listed on the National Professional Engineers Register (NPER) in the relevant discipline at the relevant time

Proprietary Means identifiable by naming the manufacturer supplier installer trade name brand name catalogue or reference number

Provide Means supply and install

Required Means required by the contract documents the local council or statutory authorities

Supply Means supply only' do not install

1 5 CONTRACTS AND FINANCE

Payment and adjustment of contract sum

General At commencement of the building work submit a schedule of anticipated progress claims which will be made throughout the contract

Progress claims breakdown With each progress claim submit a statement of amounts claimed in respect of each section designated in the specification

1 6 AUTHORITIES AND ESTABLISHMENT

Existing services

General Attend to existing services as follows

-If the service is to be continued repair divert or relocate as required If such a service crosses the line of a required trench or will lose support when the trench is excavated provide permanent support for the existing service

If the service is to be abandoned cut and seal or disconnect and make safe

1 7 BUSHFIRE PROTECTION

General

Conformance In areas designated as bushfire prone comply with statutory requirements

Standard To AS 3959

Level of construction Refer to attached report completed by BES dated July 2008

2 PRODUCTS

2 1 MANUFACTURERS OR SUPPLIERS RECOMMENDATIONS

General

Requirement Provide including select store and handle proprietary products or systems in accordance with the current published recommendations and instructions of the manufacturer or supplier

Corrosion resistance Conform to the corrosivity category applicable to the building location

2 2 TIMBER

Moisture content

General Make milled products from timbers seasoned

To within 3% of the equilibrium moisture content appropriate to the timber and its intended conditions of use

With no more than 3% difference between any 2 pieces in any one group

Acclimatisation

General Acclimatise timber fitouts by stacking them for two weeks in the in-service conditions with air circulation to all surfaces after the following construction operations are complete

Air conditioning operational

Lighting operational

Site drainage and stormwater works are complete

Space fully enclosed and secure

Wet work complete and dry

Unseasoned timber

General If unseasoned timber is provided or variation in moisture content is likely make allowance for shrinkage swelling and differential movement

Durability

General Provide timbers with natural durability appropriate to the conditions of use or preservative-treated timbers of equivalent durability

Minimum requirement To the **Natural and treated timber durability table**

Natural durability class of heartwood To AS 5604

Preservative treatment To the AS 1604 series

Natural and treated timber durability table

Exposure	Natural timber	Treated timber	Remarks
	Required durability class to AS 5604	Required hazard class to AS 1604 series	
Inside above ground Completely protected from the weather Well ventilated	Class 4	H1	Treated timber resistant to lyctids Untreated timber must be protected from termites
Inside above ground Protected from wetting with nil leaching Well ventilated	Class 3	H2	Treated timber resistant to borers and termites Untreated timber must be protected with a finish
Above ground exposed to weather Periodic moderate wetting and leaching	Class 2	H3	Treated timber resistant to borers termites and moderate decay Applicable to weatherboards fascias pergolas (above ground) window joinery framing and decking
In-ground	Class 1	H4 (Severe wetting and leaching)	Treated timber resistant to borers termites and severe decay Applicable to fence posts greenhouses pergolas (in-ground) and landscaping timbers
		H5 (Extreme wetting and leaching and/or critical uses)	Applicable to retaining walls piling house stumps building poles cooling tower fill

2 3 STEEL

Durability

General Provide steel products with inherent durability appropriate to the conditions of use or proprietary metallic and/or organic coatings of equivalent durability

Internal engineer designed steel members Remove mill scale rust moisture and oil Coat with a zinc phosphate primer to the manufacturer s instructions

Built-in products Below damp proof course to be Stainless steel 316 or engineered polymer

Minimum external requirements for corrosive environments Conform to the **Stainless and metallic coated steel table**

Stainless and metallic coated steel table

External environment includes cavity wall and roof spaces not protected from moisture penetration by sheathing or sarking	Heavy steel members including lintels more than 3 2 mm thick	Wall ties connectors and accessories less than 3 2 mm thick and above damp proof course	Steel cladding lining trims and flashings
Low corrosivity More than 10 km from salt water with breaking surf	Galvanize after fabrication 300g/m²	Galvanize after fabrication 300g/m² Metallic-coated sheet	Metallic-coated sheet AZ150

External environment includes cavity wall and roof spaces not protected from moisture penetration by sheathing or sarking	**Heavy steel members including lintels more than 3 2 mm thick**	**Wall ties connectors and accessories less than 3 2 mm thick and above damp proof course**	**Steel cladding lining, trims and flashings**
More than 1 km from salt water without breaking surf		Z600/AZ200 Galvanized wire 470g/m²	
Medium corrosivity 1 – 10 km from salt water with breaking surf 100 – 1000 m from salt water without breaking surf Non-heavy industrial areas	**Galvanize after fabrication 600g/m²**	**Galvanize after fabrication 470g/m² Galvanized wire 470g/m²**	**Metallic coated sheet AZ200**
High corrosivity Severe marine 200 – 1000 m from salt water with breaking surf 0 – 100 m from salt water without breaking surf -Heavy industrial areas	Stainless steel 316 or 316L	Stainless steel 316 or engineered polymer	Metallic-coated sheet AZ200 plus organic coating

Galvanizing

General Galvanize mild steel components (including fasteners) to AS 1214 or AS/NZS 4680 as appropriate if

Exposed to weather

Embedded in masonry

Exposed to or in air spaces behind external leaves of masonry walls

In contact with chemically treated timber

2 4 PROTECTIVE COATINGS

General

Environment To AS/NZS 2312 clause 2 3

Coating designation to AS/NZS 2312 Table 6 3

CCA (copper chrome arsenic) treated timber

Greasing Before placing bolts or other metal components in contact with CCA-treated timber paint contact surfaces or coat in grease or a bituminous coating

Unseasoned timber

General Do not fix in contact with steel framing without fully painting the contact surfaces of timber and steel

2 5 FASTENERS

Self drilling screws

Corrosion resistance To AS 3566 2 Table 1 and the **Corrosion resistance table**

Corrosivity category Medium

2 6 VAPOUR BARRIER

General

Vapour barrier To AS 2870 clause 5 3 3

Minimum thickness 0 2 mm

3 EXECUTION

3 1 WALL CHASING

Holes and chases

General Make holes and chases required in masonry walls so that the structural integrity of the wall is maintained Do not chase walls nominated as fire rated or acoustic Parallel chases or recesses on opposite faces of a wall shall not be closer than 600 mm to each other

Chasing of blockwork Only in core-filled hollow blocks or in solid blocks which are not designated as structural and shall be to the **Concrete blockwork chasing table**

Concrete blockwork chasing table

Block thickness (mm)	Maximum depth of chase (mm)
190	35
140	25
90	20

3 2 FIXING

General

Suitability If equipment and services are not suitable for fixing to non-structural building elements fix directly to structure and trim around penetrations in non-structural elements

Fasteners

Sufficiency Use proprietary fasteners capable or transmitting the loads imposed and sufficient to ensure the rigidity of the assembly

3 3 COMPLETION

General

Removal of temporary work services and plant Remove temporary work services and construction plant within 10 working days after practical completion of the works

Rectification Clean and repair damage caused by the installation or use of temporary work and services and restore existing facilities used during construction to original condition

Final cleaning Remove rubbish and surplus material from the site and clean the work throughout prior to the final progress payment

Warranties Register with manufacturers as necessary and provide copies of manufacturers warranties

Instruction manuals Provide the manufacturers instruction manuals

Operation Ensure moving parts operate safely and smoothly

Surveyor s certificate Provide a certificate which confirms that the work including boundary fences has been correctly located

Services layout Provide a as built plan' which shows the location of underground services

Authorities approvals Provide evidence of approval of the local authority or principal accredited certifier and statutory authorities whose requirements apply to the work

Keys Provide two keys for each set of locks keyed alike and two keys for each lock keyed to differ

4 0 SELECTIONS

4 1 SCHEDULE

Bushfire protection	Yes
Level of construction to AS 3959	1 and 2 Refer to report for details
Other	
Prior applications and approvals	Yes
List of applications made and approvals received	DA application under assessment
Existing services	
Water	Tank water 100 000 l tank
Toilet	Yes Waste treatment
Power	Yes single + 3 phase
Telephone	Yes
Conditions of use	Power and telephone at contractors cost Maintain waste treatment service Replace ex tank water to level at commencement of Contract
Site signs	Yes
Occupied premises	Yes
Period of occupation	Duration of contract Refer clause for extent
Area of occuaption	Paddocks and shed
Restricted hours of work	Refer to DA consent
Order of work	To contractors program
Energy efficiency approval commitments	Refer to attached BASIX certificate dated 8th August 2008
Steel generally	Refer to **Stainless and coated steel table**
External environment	
Corrosivity category	Medium corrosivity
Other requirements	

Changes to Reference specification (Part A)

0184 TERMITE MANAGEMENT

1 GENERAL

1 1 STANDARD

General

Standard To AS 3660 1

Chemical soil barriers – reticulation systems Provide evidence that the system has been type tested to AS 3660 1 Appendix E

Termite barrier notice Provide a durable notice permanently fixed in a prominent location to BCA clause 3 1 3 2(b) or B1 4 (i)(ii)

2 SELECTIONS

2 1 SCHEDULE

Termite barriers schedule

Termite barrier designation	TB1	TB2
Location	Ex concrete slabs on ground	New concrete slabs on ground
Slab penetrations		Kordon or approved
Slab control joints and footing/slab joints		Kordon or approved
Under slabs		Kordon or approved
Building perimeters	Chemical spray	Kordon or approved
Perimeter brickwork		Kordon or approved

0201 DEMOLITION

1 GENERAL

1 1 STANDARD

Demolition
Standard To AS 2601

1 2 RECORDS

General
Refer to General requirements - Dilapidation record

2 PRODUCTS

2 1 DEMOLISHED MATERIALS

General
Removal Except for items to be salvaged for reuse in the works and are to be retained and materials to be recycled on site take possession of demolished materials and remove them from the site Do not burn or bury demolished materials on the site

Recycling Where possible dismantle building components for off site recycling

3 EXECUTION

3 1 SUPPORT

Existing buildings
Temporary supports Until permanent support is provided provide temporary support for sections of existing buildings which are to be altered and which rely for support on work to be demolished

3 2 PROTECTION

Weather protection
Re-use Provide covers to protect existing plant equipment and materials intended for re-use

3 3 DEMOLITION

Asbestos removal
Method Use wet removal methods recommended in the Code of Practice for the Removal of Asbestos (NOHSC 2002) including Part 4 for insulation and lagging and Part 9 for asbestos cement

Monitoring Have dust monitoring performed by an independent testing authority

4 SELECTIONS

4 1 SCHEDULES

Recovered items for re use in the works schedule

Item	Location for re-use
Existing fire place and chimney	Reused and renovated
Timber roof trusses	Reuse where noted
Security system	Reuse and extend
Rain water tank	Reuse ex 100 000l concrete tank

Recovered items for delivery to the principal schedule

Item	Deliver to
Kitchen appliances	Retain at site under cover for collection
Ceiling fans x 2 off	Retain at site under cover for collection
Reverse cycle air conditioners x 2 off	Retain at site under cover for collection
External electric hot water storage tank	Retain at site under cover for collection

Demolished material for recycling in the works schedule

Material
Excavated fill if approved by structural engineer

Demolished material for recycling off site schedule

Material
TBC

Demolish for removal schedule

Item
Building items not included for recycling or delivery to the principal demolish and removed form the site

0221 SITE MANAGEMENT

1 EXECUTION

1 1 TREE PROTECTION

Trees to be retained

Marking Mark trees which are required to be retained using suitable non-injurious easily visible and removable means of identification Remove the identification on completion

Work near trees

Protection Protect from damage trees which are required to be retained

Work under trees Do not remove topsoil from or add topsoil to the area within the dripline of the trees

Harmful materials Keep the area within the dripline free of construction material and debris

Hand methods Use hand methods to locate expose and cleanly remove the roots on the line of excavation

1 2 ENVIRONMENTAL PROTECTION

Erosion control

General Plan and carry out the work so as to avoid erosion contamination and sedimentation of the site surrounding areas and drainage systems

Dewatering

General Keep groundworks free of water Prevent water flow over freshly laid work

1 3 SITE CLEARING

Extent

General Clear only the areas to be occupied by structures paving or landscaping

Clearing and grubbing

Clearing Remove everything on or above the site surface including rubbish scrap grass vegetable matter and organic debris scrub trees noted for removal timber stumps boulders and rubble

Turf Remove turf to a depth just sufficient to include the root zone

Grubbing Grub out or grind stumps and roots over 75 mm diameter to a minimum depth of 500 mm below subgrade under construction and 300 mm below the finished surface in unpaved areas

Surplus material

Removal Take possession of surplus material and remove it from the site

0222 EARTHWORK

1 GENERAL

1 1 STANDARD

Groundworks for slabs and footings

Standard To AS 2870

1 2 INTERPRETATION

Definitions

General For the purposes of this worksection the definitions given below apply

Rock *Monolithic material with volume greater than 0 5 m³ which cannot be removed until broken up* by mechanical means such as rippers or percussion tools

Bad ground Ground unsuitable for the work including fill liable to subsidence ground containing cavities faults or fissures ground contaminated by harmful substances and ground which is or becomes soft wet or unstable

Line of influence A line extending downward and outward from the bottom edge of a footing slab or pavement and defining the extent of foundation material having influence on the stability or support of the footings slab or pavement

Subgrade The trimmed or prepared portion of the formation on which the pavement footing or slab is constructed

1 3 NOTICE

As found site conditions

General If rock or bad ground is encountered advise immediately and obtain instructions before carrying out any further work in the affected area

1 4 EXPLOSIVES

General

Prohibition Do not use explosives

2 EXECUTION

2 1 REMOVAL OF TOPSOIL

General

Extent Remove the topsoil layer of the natural ground which contains substantial organic matter over the areas to be cut filled and to be occupied by structures and paving or landscaping

Maximum depth 200 mm

Topsoil stockpiles

General Stockpile site topsoil required for re-use Protect stockpiles from contamination by other excavated material weeds and building debris

2 2 EXCAVATION

Extent

Site surface Excavate over the site to give correct levels and profiles required as the basis for structures paving and landscaping Make allowance for compaction or settlement

Footings Excavate for footings to the required sizes and depths Confirm that the bearing capacity is adequate

Bearing surfaces

General Provide even plane bearing surfaces for loadbearing elements including footings Step for level changes Make the steps to the appropriate courses if supporting masonry

Reinstatement

Requirement If excavation exceeds the required depth or deteriorates reinstate with fill to the correct depth level and bearing value

Existing footings

Requirement If excavation is required below the line of influence of an existing footing use methods which maintain the support of the footing and ensure that the structure and finishes supported by the footing are not damaged

Grading

General Grade the ground surface externally and under suspended floors to drain ground or surface water away from buildings without ponding

2 3 SURFACE PREPARATION

General

Preparation Before placing fill (including topsoil fill) ground slabs or load-bearing elements remove loose material debris and organic matter and compact the ground to achieve the required density

2 4 PLACING FILL

General

Placement Place fill in layers to BCA 3 2 2 and compact each layer to achieve the required density

Moisture content If necessary to achieve the required density or moisture content adjust the moisture content of the fill before compaction

Base preparation under ground slab vapour barrier Blind the surface with sufficient sand to cover any hard projections Wet the sand just before placing the vapour barrier

Landscape areas

Refer to landscape drawings and details for landscape fill requirements

0223 SERVICE TRENCHING

1 EXECUTION

1 1 EXCAVATING

Excavating

General Make trenches straight between manholes inspection points and junctions

Trenches Provide trenches with vertical sides and uniform grades

Trench widths

General Keep trench widths to the minimum consistent with the laying and bedding of the relevant service and construction of manholes and pits

1 2 BACKFILLING

General

General Backfill service trenches as soon as possible after laying the service Place backfill in layers Compact each layer to a density sufficient to minimise settlement

Backfill material Excavated spoil or well graded inorganic material with maximum particle size of 75 mm

Next to services Do not place any particles greater in size than 25 mm within 150 mm of services

Under paved areas and within 4m of structures Coarse sand controlled low strength material or fine crushed rock

In reactive clay sites classified M M-D H H-D or E to AS 2870 Impervious material

0301 PILING

1 GENERAL

1 1 CROSS REFERENCES

Structural engineers drawings
Conform to the structural engineer s details and specifications for reinforced concrete construction

2 EXECUTION

2 1 INSTALLATION

Bored piers
General After excavating bored piers remove loose material and water from the base and confirm the bearing capacity

Concreting Do not allow loose material to fall down the hole before or during concreting If required provide a liner

0310 CONCRETE

1 GENERAL

1 1 CROSS REFERENCES

Associated worksections

Associated worksections Conform to the following

Termite management

Cementitious toppings

Structural engineers drawings

Conform to the structural engineer s details and specifications for reinforced concrete construction

1 2 STANDARDS

General

Formwork design and construction formed surfaces To AS3610

Specification and supply of concrete To AS 1379

Concrete materials and construction To AS 3600

Ground slabs and footings To AS 2870

1 3 INTERPRETATIONS

Definitions

General For the purposes of this worksection the definitions given below apply

-Ambient temperature The air temperature at the time of mixing and placing of concrete and the predicted or likely air temperature at any time during the 48 hours following a concrete pour

Weather

Cold Ambient shade temperature < 10°C

Hot Ambient shade temperature > 32°C

1 4 TOLERANCES

Surface quality

Formed surfaces Conform with the surface finish requirements of AS 3610 and the following

Visible To a 3 mm tolerance

Not visible To a 6 mm tolerance

Flatness

Unformed surfaces Confirm conformance with the following using a straight edge placed anywhere on the surface in any direction

Generally Machine floated finish to a 3 mm tolerance

Areas for tiling Screeded finish to a 6 mm tolerance

1 5 SUBMISSIONS

Pool design and construction

Certification Provide certification for design and construction by a qualified structural engineer experienced in pool design and construction

2 PRODUCTS

2 1 MATERIALS

Polymeric film underlay

Location Under slabs on ground including integral ground beams and footings provide a vapour barrier or in areas prone to rising damp or salt attack a damp proofing membrane

Lost formwork

General Not to contain timber or chlorides and not to impair the structural performance of the concrete members

Accessories Adopt material and corrosion protection to match the profiled steel sheeting

Pre mixed concrete supply

Standard to AS 1379 by the batch production process Maximum slump 100 mm

3 EXECUTION

3 1 FORMWORK

Preparation

Cleaning Before placing concrete remove free water dust debris and stains from the forms and the formed space

Stripping times

General Leave formwork for suspended structures in place after pouring concrete for the following periods

-Vertical surfaces 2 days

-Bottom surfaces 7 days with shoring and backprops left in position for 21 days

Corners

Work above ground Chamfer at re-entrant angles and fillet at corners

Face of bevel 25 mm

3 2 REINFORCEMENT

Supports

General Provide proprietary concrete metal or plastic supports to reinforcement in the form of chairs spacers stools hangers and ties as follows

-To be adequate to withstand construction and traffic loads

With a protective coating if they are ferrous metal extending to the surface of the concrete or are used with galvanized or zinc-coated reinforcement

Minimum spacing

-Bars ≤ 60 diameters

-Fabric ≤ 800 mm

Supports over membranes Prevent damage to waterproofing membranes or vapour barriers If appropriate place a metal or plastic plate under each support

Projecting reinforcement

General If starter or other bars project beyond reinforcement mats or cages through formwork or from cast concrete provide a plastic protective cap to each bar until it is incorporated into subsequent work

Tying

General Secure the reinforcement against displacement by tying at intersections with either wire ties or clips Bend the ends of wire ties away from nearby faces of forms so that the ties do not project into the concrete cover

Minimum requirements

Splices Splice as follows

Mesh sheets 225 mm

Trench mesh 500 mm

Bars Greater of either 500 mm or 25 x bar diameter

Strip footing intersections and corners Full width of intersecting reinforcement

Cover Refer to structural engineers drawings for details of concrete cover

3 3 CEMENT

Bagged cement

Standard To AS 3972

Age Less than 6 months old

Storage Store cement bags under cover and above ground

3 4 CONCRETE

Placing

General Use placing methods which avoid segregation and loss of concrete and which minimise plastic settlement Maintain a generally vertical and plastic concrete edge during placement

Layers Place concrete in layers ≤ 300 mm thick such that each succeeding layer is compacted before previous layer has taken initial set Compact into previous layer

Compaction

Methods Use immersion and screed vibrators accompanied by hand methods as appropriate to remove entrapped air and to fully compact the mix

Vibrators Do not allow vibrators to come into contact with set concrete reinforcement or items including pipes and conduits embedded in concrete Do not use vibrators to move concrete along the forms *Avoid over-vibration that may cause segregation*

Rain

General During placement and prior to setting do not expose concrete to rain

Protection Protect surface from damage by covering until hardened

3 5 CONCRETE PLACING IN COLD WEATHER

Placing

Concrete Maintain the temperature of the freshly mixed concrete at ≥ 5°C

Formwork and reinforcement Before and during placing maintain temperature at ≥ 5°C

Temperature control

General Heat the concrete materials other than cement to the minimum temperature necessary to ensure that the temperature of the placed concrete is within the limits specified

3 6 CONCRETE PLACING IN HOT WEATHER

Placing

Concrete Maintain the temperature of the freshly mixed concrete in conformance with the ≤ 35°C

Formwork and reinforcement Before and during placing maintain temperature at ≤ 35°C

Temperature control

General Select one or more of the following methods of maintaining the specified temperature of the placed concrete

Cover the container in which the concrete is transported to the forms

Spray the coarse aggregate using cold water prior to mixing

Use chilled mixing water

Evaporation control

Barriers Erect barriers to protect freshly placed concrete from drying winds

3 7 CONCRETE CURING

General

Curing Cure continuously from completion of finishing until the total cumulative number of days or fractions of days during which the air temperature in contact with the concrete is above 10°C is at least the following

Fully enclosed internal surfaces 3 days

Other concrete surfaces 7 days

End of curing period Prevent rapid drying out at the end of the curing period

Protection Maintain at a reasonably constant temperature with minimum moisture loss during the curing period

Curing compounds

Standard To AS 3799

Application Provide a uniform continuous flexible coating without visible breaks or pinholes which remains unbroken at least for the required curing period after application

Substrates Do not use wax-based or chlorinated rubber-based curing compounds on surfaces forming substrates to applied finishes concrete toppings and cement based render

Hot weather curing

Protection Provide protection as follows

Immediately after finishing either cover exposed surfaces using an impervious membrane or hessian kept wet until curing begins or apply a curing compound

Water curing

General If water is used pond or continuously sprinkle in such a way as to not cause damage to the concrete surface for the required curing period

3 8 JOINTS

Construction joints

Location Do not relocate or eliminate construction joints or make construction joints not shown on the drawings If emergency construction joints are made necessary by unforeseen interruptions to the concrete pour submit a report on the action taken

Preparation Roughen and clean the hardened concrete joint surface Remove loose or soft material free water foreign matter and laitance Dampen the surface just before placing the fresh concrete and coat with a neat cement slurry

Slip joints

Requirement If concrete slabs are supported on masonry provide proprietary slip joints

3 9 FORMED SURFACES

General

Damage Do not damage concrete works through premature removal of formwork

Curing

General If forms are stripped when concrete is at an age less than the minimum curing period commence curing exposed faces as soon as the stripping is completed

Surface repairs

General Repair surfaces as required

3 10 UNFORMED SURFACES

Surface finishes

General Provide surface finishes in conformance with the

- **Unformed surface finishes schedule**
- **Concrete slab surface finishes schedule**

Surface repairs

General Repair surfaces as required

3 11 COMPLETION

Formwork removal

Extent Remove formwork other than steel reinforcement decking including formwork in concealed locations but excepting lost formwork

Timing Do not disturb forms until concrete is hardened enough to withstand formwork movements and removal without damage

Loading

General Do not erect masonry walls or other brittle elements on beams and slabs while they are still supported by formwork

Protection

Protection Protect the concrete from damage due to construction load overstresses physical and thermal shocks and excessive vibrations particularly during the curing period

Surface protection Protect finished concrete surfaces and applied finishes from damage

4 SELECTIONS

4 1 SCHEDULE

Unformed surface finishes schedule

Property	Type
	Class 1 finish
Location	– Exposed wall and soffits to Pool and Lanai – 3 off concrete piers – Exposed wall south side Pool
Formwork	*Release agent to form*

Concrete slab surface finishes schedule

Concrete slabs Exposed	*Concrete steel trowel for Paint finish Refer Painting*
Concrete slabs concealed	Wood float for T+G timber flooring on battens or Stone tiles For finish to grano topping Refer to Cementitious toppings

0331 BRICK AND BLOCK CONSTRUCTION

1 GENERAL

1 1 CROSS REFERENCES

Associated worksection

Associated worksection Conform to the following

Termite management

Structural engineers drawings

Conform to the structural engineers details and specifications for reinforced concrete block construction

1 2 STANDARD

General

Materials and construction To AS 3700

2 PRODUCTS

2 1 MATERIALS

Masonry units

Standard To AS/NZS 4455

Masonry durability

Requirement Conform to AS 3700 Table 5 1

Mortar materials

Sand Fine aggregate with a low clay content and free from efflorescing salts selected for grading and colour for facework

Proportions Conform to the BCA clause 3 3 1 6 and Table 3 3 1 2

2 2 COMPONENTS

Wall ties

Standard To AS/NZS 2699 1

Non-seismic areas Type A

Seismic areas Type B

Flashings and damp-proof courses

Standard To AS/NZS 2904

3 EXECUTION

3 1 GENERAL

Cutting

Cutting Set out masonry with joints of uniform width and the minimum cutting of masonry units

Joints

Externally Tool to give a dense water-shedding finish

Internally If wall is to be plastered do not rake more than 10 mm to give a key

Rods

Construct masonry to the following rods

75 mm high units 7 courses to 600 mm

190 mm high units 3 courses to 600 mm

Bond

Type Stretcher bond

Perpends

General Keep perpends in alternate courses vertically aligned and fill them completely with mortar

Wall chasing

Holes and chases Make holes and chases required in masonry walls so that the structural integrity of the wall is maintained Do not chase walls nominated as fire rated or acoustic Parallel chases or recesses on opposite faces of a wall shall not be closer than 600 mm to each other

Chasing of blockwork Only in core-filled hollow blocks or in solid blocks which are not designated as structural and shall be to the **Concrete blockwork chasing table**

Concrete blockwork chasing table

Block thickness (mm)	Depth of chase (maximum mm)
190	35
140	25
90	20

Sills and thresholds

General Solidly bed masonry sills and thresholds and lay them so that the top surfaces drain away from the building

Appearance

Cleaning Clean progressively to remove mortar smears stains and discolouration Do not use an acid solution Do not erode joints if using pressure spraying

Chimneys and fireplaces

Extend existing chimney Provide fabricated MS hood built into the new brickwork Refer Metal work for details

3 2 SUBFLOOR WORK

Air vent location

General Provide air vents to give adequate cross ventilation to the space under suspended ground floors

Cavity walls Provide matching vents in the internal leaves located as near as practicable to the air vents in the external leaves

Location Below damp-proof course to internal and external walls

Minimum provision 6000 mm^2 net ventilation area per linear metre of wall

3 3 DAMP-PROOF COURSES

Location

General Provide damp-proof courses as follows

Walls adjoining infill floor slabs on membranes In the course above the underside of the slab in internal walls and inner leaves of cavity walls Project 40 mm and dress down over the membrane turned up against the wall

Cavity walls built off slabs on ground In the bottom course of the outer leaf continuous horizontally *across the cavity and up the inner face bedded in mortar turned 30 mm into the inner leaf 1course* above

Masonry veneer construction In the bottom course of the outer leaf continuous horizontally across the cavity Fastened to the inner frame 75 mm above floor level

-At timber floors In the first course below the level of the underside of ground floor timbers in internal walls and inner leaves of cavity walls

Height Not less than

150 mm above the adjacent finished ground level

75 mm above the finished paved or concrete area

50 mm above the finished paved or concreted area and protected from the direct effect of the weather

Installation

General Lay in long lengths Lap the full width of angles and intersections and 150 mm at joints Step as necessary but not more than 2 courses per step for brickwork and 1 course per step for blockwork Sandwich damp-proof courses between mortar

Junctions Preserve continuity of damp-proofing at junctions of damp-proof courses and waterproof membranes

3 4 CAVITY WORK

Cavity clearance

General Keep cavities clear at all times

Cavity fill

General Fill the cavity with mortar to 1 course above adjacent finished (ground) level Fall the top surface towards the outer leaf

Cavity width

General Provide minimum cavity widths in conformance with the following

Masonry walls 50 mm

Masonry veneer walls 40 mm between the masonry leaf and the loadbearing frame and 25 mm minimum between the masonry leaf and sheet bracing

Openings

Do not close the cavity at the jambs of external openings

3 5 FLASHINGS

Location

General Provide flashings as follows

Floors Full width of outer leaf immediately above slab continuous across cavity and up the inner face bedded in mortar turned 30 mm into the inner leaf 2 courses above for brick and 1 course for block Where the slab supports the outer skin and is not rebated bed the flashing in a suitable sealant

Under sills 30 mm into the outer leaf bed joint 1 course below the sill extending up across the cavity and under the sill in the inner leaf or the frame Extend at least 150 mm beyond the reveals on each side of the opening

Over lintels to openings Full width of outer leaf immediately above the lintel continuous across cavity 30 mm into the inner leaf 2 courses above for brick and 1 course for block or turned up against the frame and fastened to it Extend at least 150 mm beyond the ends of the lintels

At abutments with structural frames or supports Vertical flash in the cavity from 150 mm wide material wedged and grouted into a groove in the frame opposite the cavity

At jambs Full height flashing extending 75 mm beyond the closure into the cavity interleaved with the sill and head flashing at each end Fix to jambs

Installation

General Sandwich flashings between mortar except where on lintels

Pointing Point up joints around flashings to fill voids

Weepholes

Location Provide weepholes to external leaves of cavity walls in the course immediately above flashings and cavity fill and at the bottoms of unfilled cavities

Proprietary item Weepa

Maximum spacing 1200 mm

Weephole guards Provide access barrier

Clearance for timber frame shrinkage

General In seasoned timber frame masonry veneer construction leave the following clearances between window frames and masonry sills and between roof frames and the masonry veneer

Single storey frames and ground floor windows (not for slab on ground) 10 mm

Additional clearance Accommodate additional shrinkage of unseasoned floor timbers and framing

3 6 WALL TIES

Wall tie application

Classification To AS/NZS 2699 1

Type To BCA clause 3 3 3 2

Spacing To BCA Figure 3 3 3 1

Corrosion protection To BCA Table 3 3 3 1

3 7 REINFORCED AND GROUTED BLOCKWORK

Cleaning core holes

General Provide purpose-made cleanout blocks or machine cut a cleaning hole at the base of each grouted core

Location Locate on the side of the wall which is to be rendered or otherwise concealed

Cleaning Rod cores to dislodge mortar fins protruding from the blocks and mortar droppings from reinforcement Remove through the clean-out blocks

Grouting

Commencement Do not commence until grout spaces have been cleaned out and the mortar joints have attained sufficient strength to resist blow-outs

Height of lift Limit the height of individual lifts in any pour to ensure that the grout can be thoroughly compacted to fill all voids and ensure bond between grout and masonry

Compaction Compact by vibration or by rodding

Topping up On the completion of the last lift top up the grout after 10 min to 30 min and vibrate or rod to mix with the previous pour

3 8 CONTROL OF MOVEMENT

Ageing of bricks and concrete

Minimum age of clay bricks 7 days

Minimum age of concrete supports to clay bricks 28 days

Joints

General Provide joints as follows

-Contraction joints for concrete and calcium silicate masonry

Maximum length of continuous wall 6 m

Minimum width of control joint 10 mm

-Expansion joints for clay brickwork

Maximum length of continuous wall 6 m

Width of vertical joint ⌊ 10 mm □ 20 mm

Width of horizontal joint ⌉ 15 mm □ 20 mm

Flexible ties and anchors

Requirement If ties or anchors extend across control joints provide ties or anchors which maintain the stability of the masonry without impairing the effectiveness of the joint

Joint material

Installation Clean the joints thoroughly and insert an easily compressible backing material before sealing

Sealant depth Fill the joints with a gun-applied flexible sealant for a depth of at least the joint width

Sealant type External UV stable

3 9 LINTELS

General

Cold-formed lintels Proprietary cold-formed flat-based type designed to AS/NZS 4600

Steel flats and angles Sizes to BCA Figure 3 3 3 5

Material Mild steel galvanized to AS/NZS 4680

Corrosion protection To AS/NZS 2699 3 and BCA clause 3 4 4 4

Installation

General Do not cut on site Keep lintels 10 mm clear of heads of frames Pack mortar between any vertical component and supported masonry units For angles install with the long leg vertical

Propping To prevent deflection or excessive rotation temporarily prop lintels until the masonry reaches its required strength

4 SELECTIONS

4 1 SCHEDULE

Masonry Type

FFB Brick

FB Concrete Block

Type/size
Pressed Clay brick 230 x 110 x 76 h
Hollow block 390 x 190 x 190 h

Colour
Common brick
Grey block

Mortar type

M3 generally
M4 below dampcourse

Mortar colour Grey cement

Mortar joints

Brick Raked for cement render
Block Tooled for fair face block or paint finish

Wall ties Medium duty

Wall ties finish
Galvanised wire ties Minimum 470g/m2 coating mass
Galvanised steel sheet ties Minimum 470g/m2 galvanised to each side

Weepholes
Bushfire Weepa (with SS mesh infill) to cement rendered masonry walls south elevation main residence
Standard Weepa to cement rendered masonry walls elsewhere

Changes to Reference specification (Part A)

0342 STEEL FRAMING

1 GENERAL

1 1 CROSS REFERENCES

Associated worksections

Associated worksections Conform to the following

Painting for priming of steel before fixing and finishing to exposed structural steel framing

1 2 STANDARDS

General

Steel design fabrication and erection To AS 4100

Cold-formed steel To AS 4600

Preparation and metal treatment of metal surfaces To AS 1627

1 3 STRUCTURAL STEEL

General

Refer to structural engineer s drawings and specification for details for sections and finishes to structural steel framing

1 4 SUBMISSIONS

Structural steel framing

Shop drawings Submit shop detail drawings

Prepare drawings to show

- On a plan the member layout
- On elevations the arrangement of members
- The method of assembly connection holding down and bracing
- Schedule of section sizes

2 PRODUCTS

2 1 COMPONENTS

Cold-formed steel framing

Cold-form sections from metallic-coated steel to AS 1397

Corrosion protection To BCA clause 3 4 2 2

Framing members

Cold-formed steel framing and hot rolled sections

3 *EXECUTION*

3 1 GENERAL

Fabrication

Length Cut members accurately to length so that they fit firmly against abutting members

Service holes Form holes by drilling or punching

Site cut holes Provide plastic bushes or grommets to site cut holes

Site work Do not fabricate on site where welded connections are required

Prefabricated frames

General Protect frames from damage or distortion during storage transport and erection Provide temporary protection for members until permanent covering is in place

Metal separation

General Install lagging or timber noggings to separate non-ferrous service pipes and accessories from the framing

Fastening

Type Select from the following

Bolting

Self-drilling self-tapping screws

- Blind rivets

Proprietary clinching system

Structural adhesives

- Welding

Welding

Burning Avoid procedures that result in greater than localised burning of the sheets or framing members

Installation

Holding down and bracing Provide details demonstrating equivalence with AS 1684 requirements

Protection

Grommets Provide grommets to isolate piping and wiring from cold-formed steel framing

Swarf Remove swarf and other debris from cold formed steel framing immediately

Earthing

Permanent earthing Required

Temporary earthing Provide temporary earthing during erection until the permanent earthing is installed

Certification

General For components for which independent design certification has been required provide independent certification for the erected components confirming compliance with the design intent

4 SELECTIONS

4 1 SCHEDULE

Shop drawings	Provide 3 copies of structural steel shop drawings prior o fabrication of steel work
All structural seel UNO	Refer Structural drawings for preparation and paint finish
Exposed structural steel columns beams and fascias	Refer PAINTING for preparation and finish – Type E - paint system

0382 LIGHT TIMBER FRAMING

1 GENERAL

1 1 CROSS REFERENCES

Associated worksections

Associated worksections Conform to the following

Termite management for termite risk reduction

Earthwork for clearance for masonry bearer supports

Brick and block construction for clearance for timber frame movements

Waterproofing – wet areas for waterproofing of wet areas

Painting for priming timber before fixing

1 2 STANDARDS

General

Residential timber framed construction To AS 1684 4 or AS 1684 3 as appropriate

Design To AS 1720 1

2 PRODUCTS

2 1 COMPONENTS

Strapping

Steel straps Metallic coated steel to AS 1397 minimum size 25 x 1 mm or 30 x 0 8 mm

External timber

Bush fire attack External timber selection for low and medium bush fire attack To BCA Table 3 7 4 1

Timber selection to comply with NSW Rural Fire Service development Control note 001

3 EXECUTION

3 1 GENERAL

Timber fasteners

Metal washers Provide washers to the heads and nuts of all bolts and coach screws

Connectors Press connector plates fully into the frame members Knots not permitted in plate area

Joints

General No gaps greater than 2 mm

Priming

Steel Before fixing prime steel which is not galvanized or metallic-coated

Fabrication

Length Cut members accurately to length so that they fit firmly against abutting members

Service holes Form holes by drilling

Prefabricated frames

General Protect frames including existing roof trusses where indicated to be reused from damage or distortion during storage transport and erection Provide temporary support for frames where required Provide temporary protection for members until permanent covering is in place

Installation

Hold down and bracing Provide details demonstrating conformance with AS 1684

3 2 FLOOR FRAMING

General

Construction loads If construction loading exceeds design loading provide additional support so as to avoid overstressing of members

3 3 WALL FRAMING

Timber wall framing

Requirement Provide gauged timbers for studs noggings and plates in double-faced walls

Wall studs

General Provide studs in single lengths without splices Place a stud under or within 40 mm from each structural load point from roof or ceiling (except for openings) Provide multiple studs at points of concentrated load

Maximum stud spacing 600 mm

Heads to openings

General Provide lintels appropriate to load and span

Additional support

General Provide additional support as necessary in the form of noggings trimmers and studs for fixing lining cladding hardware accessories fixtures and fittings

Maximum spacing of noggings 1350 mm centres

Vermin barriers

General Provide vermin barriers as follows

Brick veneer barrier Close nail 10 mm steel wire mesh to the underside of the bottom plate of external stud walls extending across the cavity for building into brickwork

Damp proof course

General Provide damp-proof courses under the bottom plate of stud walls built off slabs or masonry dwarf walls as follows

Walls of Bathroom Ensuite and Laundry Turn up at least 150 mm on the wet side and tack to studs

Installation Lay in long lengths Lap full width at angles and intersections and at least 150 mm at joints

Junctions Preserve continuity of damp-proofing at junctions of damp-proof courses sarkings and waterproof membranes

Flashings

Location Provide flashings to external openings sufficient to prevent the entry of moisture Form trays at the ends of sill flashings

Masonry veneer construction Extend across cavities and build into brickwork

3 4 ROOF FRAMING

General

Pitched roofs Construct framing for flat or pitched roofs where the ceiling follows the roof line consisting of rafters or purlins supporting ceiling lining and roof covering

Strutted framing Construct traditional timber pitched roof framing consisting of rafters supported at intermediate points by a system of underpurlins strutted off walls or strutting beams and braced by collar ties and ceiling joists supported by walls and ceiling hanging beams

Additional support Provide a frame member behind every joint in fibre cement or plasterboard sheeting or lining

Battens Requirement Supply and fix battens suitable for span spacing and roofing

Wall plates

Fixing Fix timber wall plates to masonry with either straps or bolts

Nailing strips

Requirement Where timber joists rafters or purlins bear on steel members provide 50 mm thick nailing strips bolted to the flange of the steel member

3 5 TRUSSES

General

Reuse existing timber roof trusses where directed and as detailed on structural engineers drawings

3 6 ROOF TRIM

Fascia valley gutter and barge boards
Minimum thickness
Fixed at up to 600 mm centres 19 mm
-Fixed at 600 – 900 mm centres 32 mm

3 7 COMPLETION

Cleaning
General On completion of framing remove debris from any gaps between members

4 SELECTIONS

4 1 SCHEDULE

Timber generally	Australian plantation timbers or recycled timbers to be used No rainforest or old growth forest timbers to be used
Timber for all external use including but not limited to fascia new timber posts timber screens and the like	Kwila (Merbau) or other Hardwood timber species commonly used for joinery and listed NSW Rural Fire Service development Control note 001/ Warrington report) as suitable for Level 1 and 2

0383 FLOORING AND DECKING

1 GENERAL

1 1 CROSS REFERENCES

Associated worksections

Associated worksections Conform to the following

Termite management for termite risk reduction

Resilient finishes for finishes

Painting for priming timber before fixing

Timber flooring for T+G strip flooring

1 2 STANDARD

General

Flooring and decking To AS 1684 4

2 PRODUCTS

2 1 MATERIALS

Particleboard flooring

Material To AS/NZS 1860 1

Fibre cement flooring

Compressed sheets To AS/NZS 2908 2 Type A Category 5

Decking

Hardwoods To AS 2796

3 EXECUTION

3 1 GENERAL

Particleboard flooring

Installation To AS 1860 2

Junctions Sand junctions lightly to a smooth level surface

Battens on concrete slabs

Framing fixed direct Fix seasoned battens to the concrete slab so that their top surfaces are aligned Space battens from concrete slab max 450 centres or to suit span requirements for timber batten

3 2 FIXING

Sheet flooring

Fibre-cement flooring Fix sheeting to the supports with adhesive and non-corrosive countersunk screws Fill the screw holes with sealant before fixing After fixing stop the screw heads with the same sealant finished slightly below the sheet surface

Particleboard and plywood flooring Fix sheeting to the supports with adhesive and nail

Timber decking

Installation Lay in long lengths (minimum 3 spans) double nailed at each bearing with stainless steel square drive decking screws Stagger joints and make them over joists Leave 4 mm between edges of boards Install Alcor DPC over battens and floor joist prior to laying timber decking

External decking timbers to Lanai not to be connected to internal timbers Reason Fire separation to prevent spread of flame

Arrises Chamfered or rounded

Finishing Apply the first 2 coats all round before fixing

3 3 COMPLETION

Protection

General Protect surfaces as follows

T+G flooring With hardboard or used carpet taped at all butt joints Do not cover with sheet plastic

Timber stair treads Full timber or plywood casing

4 SELECTIONS

4 1 SCHEDULE

Shop drawings		Provide 3 copies of structural steel shop drawings prior o fabrication of steel work
Strip flooring	**T+G**	Refer to TIMBER FLOORING Refer Provisional sum allowance for T+G strip flooring supply
Timber decking	**TD**	Select grade DAR northern box hardwood Ex 150 x 25 Sq drive s/steel decking screw Stainless steel grade 304 trim angle 38 x 19 x 3 to pool perimeter ~~Refer Provisional sum allowance for TD supply~~
Particle board flooring		First floor under carpet Roof store

0411 WATERPROOFING –TANKING

1 1 CROSS REFERENCES

General

Conform to the following

- *General requirements* worksection
- *Hydraulics* for sub soil drains

1 2 INSPECTION

Notice

Inspection Give notice so that inspection may be made as follows

-Substrate preparation completed

Before membranes are covered up or concealed

-Before drainage cell installation is completed

Before sub soil drains are covered

Before retaining walls are back filled

2 PRODUCTS

2 1 MEMBRANES

Membrane systems

To be proprietary membrane systems having one of the following certifying that the system is suitable for the intended external waterproofing as follows

Membrane type paint on liquid membrane

Membrane protection

Provide protection to membrane during construction and prior to final protection is in place

3 EXECUTION

3 1 PREPARATION

General

Prepare substrates as follows

Fill all cracks in substrates wider than 1 5 mm with a filler compatible with the membrane system

Fill voids and hollows in concrete substrates with a concrete mix not stronger than the substrate

Remove projections

Remove all traces of a concrete curing compound if used

Remove deleterious and loose material

Leave the surface free of contaminates clean and dust free

Moisture content

Concrete substrates Cure for > 21 days

Moisture content Verify that the moisture content of the substrate is compatible with the water vapour *transmission rate of the membrane system by testing to* AS/NZS 2455 1 Appendix B

Test type select from the following

Hygrometer test Seal a hygrometer to the substrate for > 16 hours and measure the relative humidity of the air between the instrument and the slab

Electrical resistance test Connect a resistance meter to the slab and read the moisture content

Joints and fillets

Internal corners Provide 45° fillets 50 x 50 mm

External corners Round or arris edges

Movement control joints Prepare all substrate joints to suit the membrane system

Priming

If required prime the substrates with compatible primers to ensure adhesion of membrane systems

3 2 APPLICATION

Protection

General Protect membrane from damage during installation and for the period after installation until the membrane achieves its service characteristics that resist damage

Curing of liquid applied systems

General To the manufacturers instructions

Movement control joints

General Locate over movement control joints in the substructure

Fillets and bond breakers Provide of sufficient dimension to allow the membrane to accommodate the movement

Membrane terminations

Edge protection Protect edges of the membrane

Balcony membrane about doors and windows

Install membrane prior to the fixing of door or window frames

Membrane upturn

Exposed areas 150 mm upturn from the finished external floor level or overflow level whichever is the higher

Overlaying finishes on membranes

Compatibility If a membrane is to be overlayed with another system such as drainage cell soil and the like provide an overlaying system that is compatible with and not cause damage to the membrane

3 3 DRAINAGE CELL PANELS

Retaining walls and planter walls

Protect the membrane after installation with permanent cover of drainage cell and fabric laid against the membrane

Drainage cell Atlantis Concertina Panel 15 mm thick butt joint

Fabric Geofabric weight 300 g/m2 bonded to drainage cell

3 4 COMPLETION

Protection

General Protect the membrane surfaces until bonding has set or for 24 hours after laying whichever period is the longer

Reinstatement Repair or replace faulty or damaged work If the work cannot be repaired satisfactorily replace the whole area affected

Warranty

Waterproofing Cover materials and workmanship in the terms of the warranty in the form of interlocking warranties from the supplier and the applicator

Form Against failure of materials and execution under normal environment and use conditions

Period As offered by the supplier

4 SELECTIONS

4 1 SCHEDULE

Waterproof membrane

All retaining walls and planter walls Sikatite-BE water based bituminous membrane

All retaining walls and planter walls drainage cell and geo fabirc

0421 ROOFING

1 GENERAL

1 1 CROSS REFERENCES

Associated worksections

Associated worksections Conform to the following

Insulation and sarking membranes for roof sarking requirements

Hydraulic for collection of rainwater

2 PRODUCTS

2 1 COMPONENTS

Fasteners

Exposed fasteners Provide fasteners which are prefinished with a coating to match the roofing material

2 2 MATERIALS

Sheet metal roofing

Standard To AS 1562 1

Zinc roofing

Standard To AS 1562 1

Roof plumbing goods

Standard To AS/NZS 3500 3

Flashing and capping

Standard To AS/NZS 2904

3 EXECUTION

3 1 SHEET METAL ROOFING

Installation

Eaves Treat ends of sheets as follows

Generally Close off ribs at tops and bottoms of sheets by mechanical means or with purpose-made fillers or end caps

At gutters Project sheets 50 mm into gutters

Swarf Remove swarf and other debris as soon as it is deposited

Visible accessories

Requirement Provide material with the same finish as roofing sheets

3 2 COLORBOND ~~ZINC ROOFING~~ FASCIA ~~+ CLADDING~~

Installation

Standard To AS 1562

Finish off at corners with purpose-made folded ~~zinc~~ Colorbond sheet

Metal separation Prevent direct contact between incompatible metals

Install over breather sheet and fully backed with 19 mm marine grade plywood

Standing seam centres to roof and wall to match

Install strictly in accordance with manufacturers written instructions and details

Visible accessories

Requirement Provide material with the same finish as roofing sheets for a complete installation to manufacturers written instructions and details

3 3 ROOF PLUMBING

Installation of rainwater goods

Sealing Seal fasteners and mechanically fastened joints with silicone sealant

Flashings and cappings

Upstands Flash projections above or through the roof with two part flashings consisting of an apron flashing and an over-flashing with at least 100 mm vertical overlap Provide for independent movement between the roof and the projection

Wall abutments Provide overflashings where the roof abuts a wall as follows

Wall cladding Raking

Gutters

Minimum slope of eaves gutters 1 200

Minimum width overall of valley gutters 400 mm

Downpipes

General Prefabricate downpipes to the required section and shape where possible Connect heads to gutter outlets and if applicable connect feet to rainwater drains

Access cover Provide a removable watertight access cover at the foot of each downpipe stack

Downpipe support Provide supports and fixings for downpipes

4 SELECTIONS

4 1 SCHEDULE

Roof covering

MR1

Roof material	Zincalume steel
Manufacturer	Blue Scope Steel/Stramit
Roof material	Lysaght Custom orb/
Thickness	0 42 (max purlin span 1 2m internal/0 9m end span)
Finish	Colorbond Utra
Roofing capping + accessories colour	Windspray
Fixings	Class 4
Eaves filler	Profiled and interlocking neoprene foam filler

MR2

Roof material	Zincalume steel
Manufacturer	Blue Scope Steel/Stramit
Roof material	Lysaght Spandek (minimum roof pitch 3 deg)
Thickness	0 42 (max purlin span 1 2m internal/0 9m end span)
Finish	Colorbond Utra
Roofing capping + accessories colour	Windspray
Fixings	Class 4
Eaves filler	Profiled and interlocking neoprene foam filler

~~**MR2**~~

~~Roof fascia + wall cladding material~~	~~VM Zinc / Rheinzink Titanium Zinc~~
~~Seam~~	~~double lock standing seam~~
~~Wall cladding~~	~~vertical single lock standing seam~~
~~Thickness~~	~~0 8mm~~
~~Finish~~	~~Pre-weathered~~
~~Substrate~~	~~19mm marine grade plywood~~

MF

Selected fascia	Living /Dining roof and Terrace verandah
	Roof lights and Entry roof
Manufacturer	Bluescope Steel
Wall cladding	Lysaght Easyclad
Thickness	BMT 0 42mm
Finish	smooth Colorbond
Colour	Windspray

Guttering and downpipe

Eaves gutters	150 diam half round
Box gutters and sumps	for dimensions refer drawings
Downpipe and box gutter overflow	90 diam
Downpipe brackets	galvanised mild steel adjustable off set pipe brackets for paint finish Provide welded mild steel bracket at steel columns as applicable
Eaves gutter brackets	prefinished mild steel half round brackets
Prefinish/ colour incl accessories	Colorbond /colour Windspray
Gutter guards	metal gutter guards to all eaves and box gutters Provide proprietary Colorbond finished gutter guard to eaves gutters and free spanning zincalume expanded mesh to box gutters supported on return lip to each side

0431 CLADDING

1 GENERAL

1 1 CROSS REFERENCES

Associated worksections

Associated worksections Conform to the following

Insulation and sarking membranes for wall sarking requirements

Roofing for Zinc cladding

2 PRODUCTS

2 1 MATERIALS

Flashing material

Standard To AS/NZS 2904

Fibre cement cladding

Standard To AS/NZS 2908 2 Type A Category 3

Sheet cladding Proprietary system of 8 mm thick

Eaves lining Proprietary system of single-faced fibre cement sheets 6mm thick

Zinc roofing + cladding

Standard To AS 1562 1

2 2 COMPONENTS

Fasteners

Steel nails To AS 2334

Hot-dip galvanizing To AS/NZS 4680

3 EXECUTION

3 1 TIMBER WEATHERBOARD CLADDING

Preparation

Preservative treatment For cladding with a natural or stained finish finish the boards on both sides before installation by dipping or brushing with water-repellent preservative Do not apply preservative if this is incompatible with a specified pigmented stain finish

Cut surfaces Treat freshly cut surfaces with water repellent before fixing

Installation

Single lengths Whenever possible provide single lengths of boards when installed horizontally

Fixing at crossings

Seasoned milled weatherboards 2 fixings

Nailheads Treat visible nailheads as follows

In stained or clear finishes Drive flush

Joints

End grain joints Install boards so that butt joints are in compression

Internal and external corners Butt against a stop bead of thickness at least that of the cladding

3 2 FIBRE CEMENT CLADDING

General

Propriety system of fibre cement cladding 8 mm thick open/expressed 10mm wide vertical and horizontal joint

Joints and edges Refer manufactures details

External corners Refer manufactures details

Abutment with windows and doors Refer manufactures details

3 3 ZINC ROOFING + CLADDING

Installation

Refer to Roofing for zinc cladding

4 SELECTIONS

4 1 SCHEDULE

Cladding schedule

Cladding	**Weather board - WB**	**Fibre cement - FCC**	~~**Zinc cladding MRZ**~~
Manufacturer	Tiling timber	Hardies	~~Refer to Roofing for Zinc Roofing + Cladding~~
Material	Western red cedar	Scyon Matrix cladding Fibre cement sheet	
Profile	Ship lap C26C Premium grade	Flat sheet	
Finish	Clear oiled	paint	
Texture	Smooth DAR	smooth	
Thickness/dimension	Cover 133 18 thick	1 790 x 890 x 8mm	
Fixings	silicon bronze flat head nails	C/sunk screw fixings set megapoxt Class 4 fixings	
Joint	Horizontal board	External and internal joint sealant filled vertical 6 mm wide External and internal joint sealant filled vertical 10 mm wide Refer manufactures details	

Eaves lining	**Fibre cement FC**
Manufacturer	Hardies
Material	Fibre cement sheet
Profile	recessed edge
Thickness/dimension	6 mm
Fixings	pozi drive screw fixings Class 4 fixings
Finish	Tape + set joints + fixing heads for paint finish
Perimeter at wall and fascia	Timber DAR ex 38 x 19 for paint finish at wall Rebate in timber fascia 20 x 20 aluminium angle at steel fascia

0451 WINDOWS AND GLAZED DOORS

1 GENERAL

1 1 CROSS REFERENCES

Associated worksections

Associated worksections Conform to the following

Lining for architraves

Painting for priming of frames and doors before installation

Cladding for detail at FCC cladding

1 2 STANDARD

Glass

Selection and installation To AS 1288

Windows including louvres

Selection and installation To AS 2047

1 3 SUBMISSIONS

Framing

Shop drawings Submit shop detail drawings

Prepare drawings to show

On elevation and plan if required the arrangement of winows doors and screens

The method of assembly connection holding down and bracing

-Schedule of section sizes

2 PRODUCTS

2 1 MATERIALS

Flashings

Standard To AS/NZS 2904

Metal finishes

Zinc plating To AS 1789 at least Fe/Zn8

Anodising To AS 1231 at least Class 1A~~20~~ 25

Thermoset powder coating To AS 3715

~~**Timber frames and sashes**~~

~~Hardwood To AS 2796 1~~

~~Fire retardant timber AS 3959~~

~~Grade Select~~

~~Timber species to comply with NSW Rural Fire Service development Control note 001~~

~~Bare faced tenons on jambs~~

~~Full let in jambs~~

~~Full mortice and wedged tenon to sashes~~

~~Brass pins to secure mullions and jambs where stone sills specified/ scheduled~~

2 2 COMPONENTS

Louvre window assemblies

Description Provide louvre blades mounted in a metal surround frame or subframe and able to withstand the permissible-stress-design wind pressure for that location without failure or permanent distortion of members and without blade flutter

Adjustable louvres Provide louvre blades clipped into blade holders pivoted to stiles or coupling mullions linked together in banks each bank operated by an operating handle incorporating a latching device or by a locking bar

Bush fire screens

Bushfire screens To BCA Table 3 7 4 1

Steel framed screens BS1 Provide welded RHS box frame sections with perimeter leg mitred and fully welded at corners

-Mesh Secure stainless steel mesh grade 304 to the frame with a continuous flat bar so that the mesh is taut and without distortion Fixings - square drive 304 stainless steel metal screws

Fixed screens BS1 Provide fixed screens mesh as above to the window frames with a clipping device which permits removal for cleaning

Hinged screens BS2 frame as above but hinged to side

Sliding screens BS3 frame as above but sliding

Insect screens

Roll up screens FS1 Provide a proprietary retractable insect screen comprising aluminium frame with baked enamel finish fibreglass mesh beaded into the frame and a retraction system including tension spring nylon bearings positive self-locking device and plastic sealing strip at sill

External glazing

Bush fire attack External glazing for medium and high bush fire attack To BCA Table 3 7 4 1

- Medium (level 1) Provide glass to comply with AS 1288
- High (Level 2) Provide toughened glass to comply with AS 1288

Low e glass Provide low e glass to all external glazing

External windows and doors

Bush fire attack External window frames door frames glazed doors and window sashes for low and medium bush fire attack To BCA Table 3 7 4 1

~~Timber selection to comply with NSW Rural Fire Service development Control note 001~~

3 EXECUTION

3 1 GENERAL

Standards

Windows To AS 2047

Security screen door and window grill installation To AS 5039

Preglazing

General If possible preglaze doors and windows

Weatherproofing

Flashings and weatherings Install flashings weather bars drips storm moulds caulking and pointing so that water is prevented from penetrating the building between frames and the building structure under prevailing service conditions including normal structural movement of the building

Fixing

Packing Pack behind fixing points with durable full width packing

Prepared masonry openings If fixing of ~~timber~~ aluminium windows to prepared anchorages is by fastening from the frame face conceal the fasteners ~~by sinking the heads below the surface and filling the sinking flush with a material compatible with the surface finish~~

Trim

General Provide mouldings architraves reveal linings and other internal trim using materials and finishes matching the window frames Install to make neat and clean junctions between frames and the adjoining building surfaces

Brass pins

General Provide brass pins min 10mm diam x 2 off per timber section to secure mullions and jambs where stone sill specified /scheduled Epoxy fix pin into stone section 100 minimum into timber section

3 2 SLIDING DOORS

Accessories

General Provide overhead track supports and head and jamb linings appropriate to the arrangement of the door and removable pelmets at the head to allow access to the wheel carriages for adjustment

Wheel carriages Fully adjustable precision ball race type providing smooth quiet operation

4 SELECTIONS

4 1 SCHEDULE

Windows doors and glazed doors schedule

Shop drawings	Provide 3 copies of shop drawings prior to fabrication of windows doors and screens
~~**Timber for all external windows and doors**~~	~~Kwila (Merbau)~~ ~~Other suitable hardwood timber species commonly used for joinery and listed NSW Rural Fire Service development Control note 001(Warrington report) as suitable for Level 1 and 2~~
~~**Timber treatment**~~	~~Allow to treat timber to prevent leaching of tanins~~
Glass Laminated	Viridian Comfort Plus – colour neutral – thickness to AS1288
Glass toughened	Viridian Comfort Save – thickness to AS1288 – colour neutral

External window + door frames

Material	~~Timber select hardwood for clear finish~~ Aluminium Alspec Macarthur framing
Jamb + head section UNO	~~Rebated section ex 150 x 50~~ 100 x 45 centreglazed
Sill door opening	Stone sill to detail incl recessed guide for sliding and bifold doors
Sill window	~~Hardwood ex 175 x 50 weathered and back ploughed~~
Sash type	Hinged bifold and operable sash refer below
Prefinish type	Clear ~~oiled finish~~ anodised 25 micron
Glass	Glass Grade A safety glass to AS 1288

Hinged external glazed door panel DP1

Material	~~Timber select hardwood for clear finish~~ Aluminium Aluminium Alspec Macarthur framing
Type	Glazed
Frame construction	~~Full mortice and wedged tenon~~
Stile and head	~~Rebated section ex 125 x 50 timber gazing beads~~
Bottom rail	~~Rebated section ex 200 x 50 timber gazing beads~~ Rebate for Raven weather seal RP99
Prefinish type	Clear ~~oiled finish~~ anodised 25 micron
Glass	Grade A safety glass to AS 1288

Sliding external glazed door panel DP2

Material	~~Timber select hardwood for clear finish~~ Aluminium Alspec Commercial sliding doors
Type	Glazed
Frame construction	~~Full mortice and wedged tenon~~
Stile and head	~~Rebated section ex 125 x 50 timber gazing beads~~
Bottom rail	~~Rebated section ex 200 x 50 timber gazing beads~~
Prefinish type	Clear ~~oiled finish~~ anodised 25 micron
Glass	Grade A safety glass Clear to AS 1288
Tracks hardware	Henderson Single Run 200 top hung or Centor A14 Airtrack external sliding door system top roller top channel guide intermediate hangers and guides including draft + weather seals

Bifold external glazed door panel	**DP3**
Material	~~Timber select hardwood for clear finish~~ Aluminium Alspec Hawkesbury bifold
Type	Glazed
Frame construction	~~Full mortice and wedged tenon~~
Stile and head	~~Rebated section ex 125 x 50 timber gazing beads~~
Bottom rail	~~Rebated section ex 200 x 50 timber gazing beads~~
Prefinish type	Clear ~~oiled finish~~ anodised 25 micron
Glass	Grade A safety glass to AS 1288
Tracks hardware	Henderson Weatherfold T45 or Centor External Folding door system top roller top channel guide intermediate hangers and guides including draft + weather seals hinges handles
Aluminium louvres hinged doors	**DP4**
Door panel	Capral 200 series door panel
Louvres	Capral 32 mm louvre
Finish	Interpon® D2015 Ultriva powdercoat colour grey
Bird/ bushfire ember mesh	stainless steel woven wire mesh
Mesh type	1 8mm aperture 0 71 wire 304 stainless steel
Hardware	Motice lock hinges flush bolt Refer to Door schedule
Sliding sash window	**WS**
Material	~~Timber select hardwood for clear finish~~ Aluminium Alspec Maxview sliding window
Type	Glazed
Frame construction	~~Full mortice and wedged tenon~~
Stile and head	~~Rebated section ex 90 x 50 timber gazing beads~~
Bottom rail	~~Rebated section ex 125 x 50 timber gazing beads~~
Prefinish type	Clear ~~oiled finish~~ anodised 25 micron
Glass	Grade A safety glass to AS 1288
Tracks hardware	Henderson Weatherfold T45 External sliding door system top roller top channel guide intermediate hangers and guides including draft + weather seals hinges handles
Sashless double hung glass window	**WDH**
Manufacturer	Aneeta
Model	Sashless double hung
Material	Aluminium includes standard head and sill adaptors timber frame
Prefinish type	Anodised
Prefinish colour	Clear
External frame	~~Timber~~ aluminium frame
Lock	Keyed plunger lock key alike windows and doors
Transome seal	Single glazed lap seal - Ridgid plastic with mohair insert
Lift handle	Continuous lift section
Flyscreen	Aluminium frame/stainless steel woven wire mesh
Glass	Toughened glass thickness to AS 1288
Sashless sliding glass window	**WSS**
Manufacturer	Cowdroy
Model	Sashless slider
Material	Aluminium includes standard head and sill sections for timber frame
Frame refinish type	Anodised
Frame prefinish colour	Clear
External frame	~~Timber~~ aluminium frame
Lock	Keyed plunger lock key alike windows and doors
Transome seal	Single glazed lap seal - Rigid plastic with mohair insert
Glass	Toughened glass thickness to AS 1288
Adjustable louvred window	**WL**
Manufacturer	Breezeway Australia
Model	Altair Louvres
Material	Aluminium PVC blade clip
Prefinish type	Anodised Clear / black blade clip + handle

Handle to clearstorey windows	ring handle type A13 Refer schedule for extent
Lock	Keyed plunger lock key alike windows and doors ground level louvres
Breezway Map Rod Flyscreen	1 only (extension rod to open clearstorey windows)
Glass	6 mm thick toughened to AS 1288
Bushfire screens windows	**BFS1**
Frame	Welded steel frame
Finish	Interpon® D2015 Ultriva powdercoat colour grey
Mesh	stainless steel woven wire mesh
Mesh type	1 8mm aperture 0 71 wire 304 stainless steel
Hardware	Retainer clips
Bushfire screens hinged doors	**BFS2**
Frame	Welded steel frame
Finish	Interpon® D2015 Ultriva powdercoat colour grey
Mesh	stainless steel woven wire mesh
Mesh type	1 8mm aperture 0 71 wire 304 stainless steel
Hardware	SSS Hinges roller catch + D handles
Bushfire screens sliding doors	**BFS3**
Frame	Welded steel frame
finish	Interpon® D2015 Ultriva powdercoat colour grey
Mesh	stainless steel woven wire mesh
Mesh type	1 8mm aperture 0 71 wire 304 stainless steel
Hardware	Henderson Weatherfold T45 External Sliding door system top roller top channel guide intermediate hangers and guides + D handles
Insect screens bifold doors	**FS1**
Manufacturer	Ultrascreen
Model	Horizontal Spring Loaded Screen
Panel type	Double
Mesh	PVC coated fibreglass mesh
Finish	Powdercoated aluminium colour black
Internal glass screen	**IW**
Location	Bath + Hall Ensuite 1+ 2 Ensuite 4 +Bed 1Dining/ Family
Material	Fixed glass screen
Glass	Clear Grade A safety glass thickness to AS1288
Fixing	Recessed aluminium channel at sill and head
Aluminium louvres fixed	**L**
Frame	Capral 35 series window and framing system
Louvres	Capral 32 mm louvre
Finish	Interpon® D2015 Ultriva powdercoat colour grey
Bird/ bushfire ember mesh	stainless steel woven wire mesh
Mesh type	1 8mm aperture 0 71 wire 304 stainless steel
Hardware	Henderson Weatherfold T45 External Sliding door system top roller top channel guide intermediate hangers and guides + D handles
Aluminium louvres doors frame	**LD**
Frame	Capral 400 series window framing system
Finish	Interpon® D2015 Ultriva powdercoat colour grey
Bird/ bushfire ember mesh	stainless steel woven wire mesh
Mesh type	1 8mm aperture 0 71 wire 304 stainless steel
Hardware	Motice lock hinges Refer to Door schedule

0453 DOORS AND HATCHES

1 GENERAL

1 1 CROSS REFERENCES

Associated worksections

Associated worksections Conform to the following

Lining for architraves

Painting for priming of frames and doors before installation

-*Stairs* for Ceiling hatches (Roof access ladder)

1 2 INTERPRETATION

Definition

General For the purposes of this worksection the definition given below applies

Doorset An assembly comprising a door or doors and supporting frame guides and tracks including the hardware and accessories necessary for satisfactory operation

2 PRODUCTS

2 1 MATERIALS

Flashings

Standard To AS/NZS 2904

2 2 DOORS

Door thickness

Generally 35 mm

External doors and doors over 900 mm wide 40 mm

Door construction

Flush doors To be of balanced construction

Medium density fibreboard doors Board designated by the manufacturer as having a moisture resistance which is suitable for the exposure of the door

Tolerance

Squareness The difference between the lengths of diagonals of a door ≤ 3 mm

Twist The difference between perpendicular measurements taken from diagonal corners ≤ 3 mm

Nominal size (mm)

-Height +0 -2

Width +0 2

Safety

Security screen doors To AS 5040

Bushfire screens To BCA Table 3 7 4 1

2 3 DOOR FRAMES

Timber frames

Hardwood To AS 2796 1

Grade Select

Softwood To AS 4785 1

Grade Select

Bare faced tenons on jambs

Full let-in jambs

3 EXECUTION

3 1 GENERAL

Installation
Windows To AS 2047

Ceiling access
Refer STAIRS for ceiling access ladder Stair 2

Priming
General Prime timber door leaves on top and bottom edges before installation

Weatherproofing
Flashings and weatherings Install flashings weather bars drips storm moulds caulking and pointing so that water is prevented from penetrating the building between frames and the building structure under prevailing service conditions including normal structural movement of the building

Fixing
Packing Pack behind fixing points with durable full width packing

Prepared masonry openings If fixing of timber windows to prepared anchorages is by fastening from the frame face conceal the fasteners by sinking the heads below the surface and filling the sinking flush with a material compatible with the surface finish

Trim
General Provide mouldings architraves reveal linings and other internal trim using materials and finishes matching the window frames Install to make neat and clean junctions between frames and the adjoining building surfaces

3 2 SLIDING INTERNAL DOORS

Accessories
Face mounted Provide overhead track supports and head and jamb linings appropriate to the arrangement of the door and concealed in ceiling at the head with provision for access to the wheel carriages for adjustment

Wheel carriages Fully adjustable precision ball race type providing smooth quiet operation

4 SELECTIONS

4 1 SCHEDULE

Door frame and panel schedule

Internal door frames	**DF1**
Material	Timber select grade radiata pine for paint finish
Jamb + head section	ex 38 thick ex 38 x 15 plant on door stop
Architraves	AR1 ex 50 x 25 bevelled face to door panel
Sliding internal door	**DF2**
Material	Timber select grade radiata pine for paint finish
Jamb + head section	ex 38 thick
Architraves	AR2 shadow line
Hardware	Henderson Single Run 200 top hung or Centor A14 Airtrack internal sliding door system top roller top channel guide intermediate hangers and guides Incl Raven brush seal to conceal cavity
External door panels	**DP1 DP2 DP3 + DP4** **Refer to WINDOWS + DOORS**
Solid core internal door	**DP5**
Panel type	Block board panel Hardboard face for opaque paint finish Designated as having a moisture resistance suitable for door exposure 35 mm minimum Paint finish

Solid core external door	**DP6**
Panel type	Block board panel Timbered veneered face for opaque paint finish Designated as having a moisture resistance suitable for door exposure 45 mm minimum Paint finish

0454 GARAGE DOORS

1 GENERAL

1 1 STANDARD

General
Garage doors To AS/NZS 4505

2 SELECTIONS

2 1 SCHEDULE

Door frame and panel schedule

Garage door

Manufacturer	Graham Day
Type	Shadowline
Material	Colorbond Ultra
Colour	Windspray TBC
Panel dimension	150 to 195mm
Headroom	Low head room
Motorised operation	Radio remote control Supply 2 remote controls per door

0455 DOOR HARDWARE

1 1 CROSS REFERENCES

Associated worksections

Associated worksections Conform to the following

Door+ Window schedules for door hardware

2 PRODUCTS

2 1 COMPONENTS

External door lockset

Provide double- cylinder dead locks to each door including sliding and bifold timber doors

Internal door lockset

Generally Passage sets

Bathrooms Ensuites and Toilets Privacy sets

Internal sliding doors

Provide recessed door pulls to face and to stile

External doors + windows

Sliding and bifold external doors and windows Provide key-lockable flush bolts

Door lockset mounting heights

To centreline of spindle 1000 mm above finished floor

Keying

- Key doors alike
- Key windows alike

3 EXECUTION

3 1 GENERAL

Keying

Requirement Key doors (excluding garage doors) alike and key windows alike

Hinges

Requirement Provide hinges for internal and external doors and door leafs over 2040 mm in height and 600mm in width conform to the **Hinges table**

Door stops

Fixing Fix on the floor skirting or wall as appropriate to prevent the door or door furniture striking the wall or other surface

4 SELECTIONS

4 1 SCHEDULE

Hinges table

	Thickness of door (mm)	***Size of door (mm x mm)***	***Number of hinges (per door leaf)***	***Size of hinges (steel)***
H1	Internal door 35 mm	Max 2040 x 820	2	100 x 70 x 2 5 mm Scope DHS 100 FSS Loose pin satin s/steel
H2	External door 45 mm	2040/2400 x 1020	3	100 x 80 x 2 5 mm Scope DHS 100 FSS Fixed pin satin s/steel
H3	External door 45 mm	2040/2400 x 1020	4	100 x 80 x 2 5 mm Scope DHS 100 FSS

			Fixed pin satin s/steel
H4	External bifold doors 45 thick	Number in accordance with door operator manufacturer	Hinge size and type to door operator manufacturer

Door and window hardware

Lockset hinged door		Lockwood mortise lock 3570 series
Lockset sliding door		Lockwood sliding mortise lock 3570 series
Lockset bifold door		Lockwood sliding mortise lock 3570 series
Passage latch		Tubular latch
Privacy set		Lockwood mortise privacy lockset
Dead latch		Lockwood 001 automatic dead latch SC
Roller bolt	RB	
Cupboard catch	CC	
Flush bolt	FB1	Henderson lockable 456E 190 x 41 45 throw + keep SSS
Flush bolts top door greater 2100	FB2	Henderson lockable 456LE 450 x 41 45 throw + keep SSS
Flush bolts top window sash	FB3	Henderson lockable 456LE 450 x 41 45 throw + keep SSS
Surface bolt	FB4	Lockwood 200 mm SC
Door stops floor mounted	DS1	Scope DS229 B SC
Door stops wall / skirting mounted	DS2	Madinoz MDZ DS95 SC
Door catch	DC1	Parrot beak SC
Door catch	DC2	Magnetic catch SSS
Lever handles Internal + external doors	LH	Madinoz Level handle MDZ L40R SSS
D handle Entry pull handle	DH1	Madinoz MDZ 6200/R 32 diam 700 long SSS back to back
D handle Cupboard door pull handle	DH2	Madinoz MDZ 400/G 14 diam 200 long SSS
Recessed door pull handle Sliding door pull handle	RDH1	Madinoz MDZ FP150/RC 150 x 54 depth 15 4 SSS
Recessed door pull handle Sliding door edge pull	RDH2	SD KP30113SHBEdge pull 29 diam SN

0467 GLASS COMPONENTS

1 GENERAL

1 1 CROSS REFERENCES

Associated worksection

Associated worksection *Conform to the following*

Windows and glazed doors

1 2 SUBMISSIONS

Balustrade design

Certification Submit a professional engineers certificate confirming compliance with clause 3 6 of AS/NZS 1170 1

Sealant compatibility

Compatibility statements Submit statements from all parties to the installation that certify the compatibility of sealants and glazing systems to all substrates

2 PRODUCTS

2 1 MIRRORS

Reflective surface

Type Silver layer deposited on the glass

Protective coatings Electrolytic copper coating at least 5 □m thick and 2 coats of mirror backing and edge sealing paint having a total dry film thickness of at least 50 □m

2 2 SHOWER SCREENS

General

Glass Grade A safety glass to AS 1288

2 3 GLASS BALUSTRADES

General

Glass Grade A safety glass to AS 1288 Section 7

~~Frameless~~ Framed balustrade to BCA clause 3 9 2

3 EXECUTION

3 1 FIXING MIRRORS

Backed mirrors

Backing 18 mm moisture resistant grade particle board doors

Adhesive fixing to backing Non-acidic silicone adhesive at the rate recommended by the manufacturer

Installation to backing Clean the back of the glass panel and apply 'allnuts' of adhesive together with double sided adhesive tape for temporary support and affix directly to the backing

Fixing unbacked mirrors

Adhesive fixing to backing Non-acidic silicone adhesive at the rate recommended by the manufacturer

Installation to backing Clean the back of the glass panel and apply 'allnuts' of adhesive together with double sided adhesive tape for temporary support and affix directly to the backing

In shower area seal the perimeter of the mirror to prevent moisture build up behind the mirror

3 2 GLAZED SHOWER SCREENS

General
Provide a frameless glazed screen with recessed aluminium channels at wall and floor channel lip flush with wall and floor tiles

3 3 GLASS BALUSTRADES

Frameless
Pocket fixing To stairs 1 and 3 timber Decks and concrete walls where scheduled

4 SELECTIONS

4 1 SCHEDULE

Glass components schedule

Frameless shower screen	**SC1**
Location	Ensuite 1 2 3 4 Bath + Toilet 2
Type	Fixed shower screen
Material	Toughened glass thickness to AS1288
Glass	clear
Fixing	Recessed aluminium channel at floor and wall
Height	2000 high
Mirror	
Location	Toilet 1 + 2
Type	6mm mirror glass to AS1288
Edge treatment	polished edge
Fixing	Adhesive fixed to wall to AS 1288
Size	500 wide x 1300 high
Mirror	
Location	Ensuite 1 2 3 4 and Bath
Type	6mm mirror glass to AS 1288
Edge treatment	polished edge
Fixing	Adhesive fixed to joinery doors to AS 1288
Size	Refer to joinery drawings
Frameless glass balustrade	**HR 3**
Location	Stair 1
Type	Fixed balustrade
Material	Toughened glass thickness + panel dimensions to AS1288
Glass	Clear
Fixing	Continuos recessed pocket to steel stringer
Handrail	Select h/wood timber 50 diam clear finished fixed to glass with satin s/steel patch fittings CDS patch Fittings -CD138HB handrail bracket handrail bracket @ 2 per glass panel
Height	1000 high handrail 900 high
Frameless glass balustrade	**HR 3A**
Location	Stair 1 As HR3 - without timber handrail
Frame	Stainless steel channel satin finish to glass perimeter
~~Frameless~~ Framed **glass balustrade**	**HR 4**
Location	Pool fence
Type	Fixed balustrade and gate
Material	Toughened glass thickness + panel dimensions to AS1288
Glass	Clear
Fixing	Continuos ~~recessed pocket~~ aluminium channel to steel framing
Gate	S/steel 50 diam ~~fixed to glass with satin s/steel patch fittings CDS patch Fittings -CD138HB handrail bracket handrail bracket @ 2 per glass panel~~
Height	~~1500~~ 1200 high

~~Frameless~~ Framed **glass balustrade**	**HR 5**
Location	Lanai + Pool
Type	Fixed balustrade
Material	Toughened glass thickness + panel dimensions to AS1288
Glass	Clear
Fixing	Continuos ~~recessed pocket~~ aluminium channel to steel framing
Handrail	S/steel 50 diam ~~fixed to glass with satin s/steel patch fittings CDS patch Fittings CD138HB handrail bracket handrail bracket @ 2 per glass panel~~
Height	1000 high handrail 900 high
~~Frameless~~ Framed **glass balustrade**	**HR 5A**
Location	Stair 5
Type	Fixed balustrade
Material	Toughened glass thickness + panel dimensions to AS1288
Glass	Clear
Fixing	Continuos ~~recessed pocket~~ aluminium channel to steel framing
Handrail	S/steel 50 diam ~~fixed to glass with satin s/steel patch fittings CDS patch Fittings CD138HB handrail bracket handrail bracket @ 2 per glass panel~~
Height	1000 high handrail 900 high

0471 INSULATION AND SARKING MEMBRANES

1 GENERAL

1 1 INTERPRETATION

Definition

General For the purposes of this worksection the definition given below applies

Sarking membrane Flexible membrane material normally used for waterproofing vapour retarding or thermal reflective insulation

1 2 ENERGY EFFICIENCY

Commitment to energy efficiency required by authorities

Requirements Refer to BASIX certificate dated 18th August 2008

2 PRODUCTS

2 1 MATERIALS

Bulk insulation

Cellulosic fibre (loose fill) To AS/NZS 4859 1 Section 5

Mineral wool blankets and cut pieces To AS/NZS 4859 1 Section 8

Polyester To AS/NZS 4859 Section 7

Polystyrene (extruded rigid cellular sheets) To AS 1366 4

Polystyrene (moulded rigid cellular sheets) To AS 1366 3

Wool To AS/NZS 4859 1 Section 6

Reflective insulation

Standard To AS/NZS 4859 1 Section 9

Sarking membrane

Standard To AS/NZS 4200 1

Floor insulation

Material Bulk insulation

Sarking Perforated material

3 EXECUTION

3 1 GENERAL

Bulk insulation

Standard To AS 3999

Batts Fit tightly between framing members If support is not otherwise provided secure nylon twine to the framing and stretch tight

Sarking installation

Standard To AS/NZS 4200 2

Wall sarking

General Provide vapour-permeable sarking behind cladding which does not provide a permanent weatherproof seal including the following

-Weatherboards

-Fibre cement cladding (FCC)

~~-Zinc cladding~~

Bush fire attack Wall sarking for medium and high bush fire attack To BCA Table 3 7 4 1

- Medium (level 1) Provide sarking with flammability index not more than 5
- High (Level 2) Provide sarking as per Medium level 1

Installation Apply to the outer face of external stud walls ~~and plywood substrate to zinc cladding~~ from the top plate down over the bottom plate and flashing Run across the studs and lap at least 150 mm at joints At top seal across the wall cavity

~~**Roof sarking**~~

~~Location Provide sarking to zinc roofing~~

~~Ridge ventilation Finish sarking at least 50 mm clear of ridges~~

Vapour barrier

Requirement Where the sarking also forms a vapour barrier seal the laps and penetrations to form a continuous air tight seal and seal to the walls

4 SELECTIONS

4 1 SCHEDULE

Insulation and sarking schedule

Insulation

Roof		
Metal roofing MR1 + MR2	Foil + fibreglass/ polyester Blanket insulation	R3
~~Zinc roofs MR2~~		
External walls	Fibreglass/polyester batts	R2 5
Internal walls adjoining wall - Ensuite to Sitting room - Family to Bed 2 + 4	75 thick Soundseal R2 0 RW	

Sarking

Zinc cladding wall and roof	Medium duty double sided foil breather type sarking flammability index not more than 5
Weather boards + fibre cement cladding	Medium duty double sided foil breather type sarking flammability index not more than 5
- Waste pipes to upper floor from fittings to ground level connection including riser	Quite pipe 4 5 kg (Insulation Solutions)
- Water and waste services in adjoining wall Ensuite to Sitting room	

0511 LINING

1 GENERAL

1 1 CROSS REFERENCES

Associated worksections

Associated worksections Conform to the following

Waterproofing – wet areas for waterproofing of wet areas

-*Insulation + sarking* for internal wall sound insulation

1 2 STANDARDS

Plasterboard

Standard To AS/NZS 2588

Fibre cement

Standard To AS/NZS 2908 2

Wall and ceiling linings Type B Category 2

2 EXECUTION

2 1 SHEET LINING

Supports

General Install timber battens or proprietary cold-formed galvanized steel furring channels as follows

Where framing member spacing exceeds the recommended spacing

Where direct fixing of the sheeting is not possible due to the arrangement or alignment of the framing or substrate

-Where the lining is the substrate for tiled finishes

Installation

Plasterboard To AS/NZS 2589

-Finish Level 4

Wet areas To AS 3740

Fixing Do not use adhesive fixing alone

Joints

Flush joints Provide recessed edge and setting compound and finish flush with perforated reinforcing tape

External corner joints Make joints over zinc-coated steel corner beads

Control joints Install purpose-made zinc-coated control joint beads at not more than 12 m centres and to coincide with structural movement joints

Wet areas Install additional supports flashings trim and sealants as required

Joints in tiled areas Do not apply a topping coat after bedding perforated paper tape in bedding compound

2 2 TRIM

General

General Provide timber trim such as beads skirtings architraves mouldings and stops where necessary to make neat junctions between components finishes and adjacent surfaces

3 SELECTIONS

3 1 SCHEDULE

Lining schedule

Lining

Plasterboard	– PB10 - 10mm thick recessed edge – PB13- 13mm thick recessed edge Selected walls Refer to Partition types PW3 + 4below ands Internal Finishes Schedule
Fibre cement sheet	FC 6 - 6mm thick recessed edge

Cornice

Type	C1 - Square tape and set C2 - Shadow line P50 C3 – Timber ex 38 x 25 x 6 mm quirk (at wall face) C4 – 20 x 20 aluminium angle at external steel fascia

Skirtings

Types	SK1 - Timber ex 75 x 19 SK2- Timber nominal 120 x 19 *(dimension to be confirmed on site – floor to u/side door sill)* SKT - Tile skirting to wet areas Refer Tiling

Architraves

Types	AR1 - Timber ex 50 x 25 bevelled reveal to door fame AR2 - Shadow line P50

Partition type

1 - Typical	PB10 /PB10 timber stud
2 - Typical wet areas	PB10/FC6 timber stud
3	FC6+ PB13 /PB13 timber stud incl 75 thick Soundseal R2 0 RW insulation
4	PB13 /PB13 timber stud incl 75 thick Soundseal R2 0 RW insulation

0551 JOINERY

1 GENERAL

1 1 CROSS REFERENCES

Associated worksections

Associated worksections Conform to the following

Windows and glazed doors for reveal and jamb linings

Doors and hatches for timber doors

2 PRODUCTS

2 1 MATERIALS

Joinery timber

Hardwood To AS 2796 3

Seasoned cypress pine To AS 1810

Softwood To AS 4785 3

Finished sizes For milled timbers actual dimensions which are at least the required dimensions except for dimensions qualified by a term such as nominal or out of to which industry standards for finished sizes apply

Plywood

Interior use generally To AS/NZS 2270

Interior use exposed to moisture To AS/NZS 2271

Non structural glued laminated timber

Standard AS 5067

Wet processed fibreboard (including hardboard)

Standard To AS/NZS 1859 4

Particleboard

Standard To AS/NZS 1859 1

Dry processed fibreboard (including medium density fibreboard)

Standard To AS/NZS 1859 2

Decorative overlaid wood panels

Standard To AS/NZS 1859 3

Timber veneers Slip matched and flitch batched and falling within the visual range of the approved samples

Certification

General Brand panels under the authority of a recognised certification program applicable to the product Locate the brand on faces or edges which will be concealed in the works

Plywood certified formaldehyde emission To AS/NZS 2098 11

Level [complete/delete]

Wood panel certified formaldehyde emission level to AS/NZS 4266 16 [complete/delete]

High pressure decorative laminate sheets

Standard To AS/NZS 2924 1

High-pressure decorative laminate sheet application table

Classes Provide classes as follows

Class to AS/NZS 2924 1	Application
HGS or HGP	Kitchen work tops
VGS or VGP	Kitchen front panels
VLS	Other vertical locations

Thickness (minimum)
For horizontal surfaces fixed to a continuous background 1 2 mm
For vertical surfaces fixed to a continuous background 0 8 mm
-For post formed laminate fixed to a continuous background 0 8 mm
For vertical surfaces fixed intermittently (e g to studs) 3 0mm
For edge strips 0 4 mm

3 SELECTIONS

3 1 SCHEDULE

Joinery schedule
Refer Provisional sum Schedule for Provisional sum allowance for Joinery

Location/item		Finish material	Contractor	Notes
Kitchen	Wall cupboards bench + island bench	To be selected	Builder	Stone bench top island bench Stainless steel bench at window
Family	Wall cupboards	To be selected	Builder	
Living	Wall cupboards	To be selected	Builder	
Laundry cupboards	Wall cupboards + bench	To be selected	Builder	Excludes Door D34 Refer Door schedule
Bath	Wall cupboard mirror faced doors	To be selected	Builder	Stone bench top splashback + vertical blade at shower
Ensuite 1 2 3 + 4	Wall cupboard mirror faced doors	To be selected	Builder	Stone bench top splashback + vertical blade at shower
Study	Wall cupboards	To be selected	Builder	
Hall 2	Wall cupboard	To be selected	Builder	Excludes Door D03 Refer Door schedule
Hall 3	Wall cupboards	To be selected	Builder	Excludes Door D25+27 Refer Door schedule
Guest bed	Wardrobe	To be selected	Builder	Excludes Door D07 Refer Door schedule
Bed 2 3 +4	Wardrobe	To be selected	Builder	Excludes Door D20 D24 D30 Refer Door schedule
Bed 1	Wardrobe	To be selected	Builder	Excludes Door D54+D53 Refer Door schedule
Bed 1	Desk	To be selected	Builder	

0554 STAIRS

1 1 CROSS REFERENCES

Associated worksections

Associated worksections Conform to the following

General Requirements for timber steel coatings and durability

Steel framing for structural steel

Glass components for Glass balustrade

Painting for painting of steel before fixing

2 EXECUTION

2 1 STAIRS – STRUCTURAL STEEL

General

Refer to structural steel drawings

Type

Structural steel stringer hardwood timber tread open riser

Location

Stair 1 - Hall 1

Stair 3 - Lanai

Fabrication

Method Welding

Joints Produce smooth unbroken surfaces at joints

Fixing to structure

General Provide fabricated predrilled or purpose-made brackets and attach the stringer to the building structure with fixings including bolts into masonry anchors and structural frame work

Steel finish

General Prepare steel in accordance with paint manufacturers recommendations before finish

Steel finish Dulux Durepoxy

Timber treads

Fix treads to steel support with c/sunk 304 stainless steel square drive screws

Treads Minimum 40 thick select hardwood as floor clear timber clear finish as floor

2 2 GLASS BALUSTRADES

General

Refer to Glass components for glass balustrades fixing and handrail supports

Handrails

- Stair 1
  Select grade spotted gum hardwood
  Finished 50mm diam
  Support CDS CD138HB handrail bracket
- Stair 3
  stainless steel grade 304
  50 x 3mm diam stain finish
  Support CDS CD138HB handrail bracket

2 3 STAIRS – ROOF ACCESS LADDER

Type

Roof space ladder

Location

- Stair 2 Hall 3

Proprietary item

- *Enzie Space Saving Stairs 03 9481 2255*
- Custom Roof Space Ladder
- Opening size – 570 x 1220
- Model number - A2680 ceiling height 2600 – 2800mm

Fixed steps

Supply and install additional fixed timber steps to accommodate ceiling level to floor height at Roof Store

3 SELECTIONS

3 1 SCHEDULE

Timber Stair Treads Refer Provisional Sum Allowance schedule

Internal stair 1	Select grade hardwood species to be selected for clear finish
External stair 3	Select grade hardwood species to be selected for clear oiled finish

0572 MISCELLANEOUS APPLIANCES AND FIXTURES

1 SELECTIONS

1 1 SCHEDULES

Appliances schedule

Item	Manufacturer	Type	Supplied by	Installed by	Note
Dishwasher	TBC		~~owner~~ builder	builder	Refer to Provisional sum allowance
Wall oven	TBC		~~owner~~ builder	builder	Refer to Provisional sum allowance
Cook top	TBC	gas	~~owner~~ builder	builder	Refer to Provisional sum allowance
Range hood	TBC		~~owner~~ builder	builder	Refer to Provisional sum allowance
Microwave	TBC		~~owner~~ builder	builder	Refer to Provisional sum allowance
Fridge	TBC		builder	builder	Refer to Provisional sum allowance
Washing machine	Miele		owner	builder	
Dryer	TBC		owner	builder	
BBQ	TBC		builder	builder	Refer to Provisional sum allowance

Fixtures schedule

Item	Model no	Location	Notes
Towel hook	Vola Towel hook T18 56mm	Bath + Ensuite 1 2 3 4 + Toilet 2 Bath Ensuite 1 4 Toilet 1 + 2	– One hook per shower – One hook per basin (note pack of four)
Toilet roll holder	MDZ TRH840 SSS	Bath + Ensuite 1 2 3 4 Toilet 1 + 2	
Soap holder	MDZ SD880 SSS	Bath + Ensuite 1 2 3 4 + Toilet 2	One per shower
Shower shelf	Vola shelf transparent acrylic shelf T25	Bath + Ensuite 1 2 3 4 + Toilet 2	One per shower
WC pan brush			Supply by owner fixed by builder
Clothes line	Hills Supa Fold 230 Advantge-Midnight	Garage court	Frame colour Midnight Sky Line colour Gunmetal Size 2 2m x 1 5m
Door chime			

0574 WINDOW COVERINGS

1 PRODUCTS

1 1 MATERIALS

External blinds

General Provide external adjustable louvered blinds including all accessories for a complete installation including single and double guide rails bottom rails and wind sensor

2 SELECTIONS

2 1 SCHEDULE

Coverings schedule

Location	Code	Type	Manufacturer	Model	Operation	Prefinish/colour
External Blinds Windows W35 W36+ W37	**WS**	External aluminium adjustable louvre blinds	Vental Australia Pty Ltd	V80	Electric remote control	Silver anodised

0611 PLASTERING

1 GENERAL

1 1 CROSS REFERENCES

Associated worksectons

Associated worksectons Conform to the following

Waterproofing wet areas for waterproofing of wet areas

Painting for priming of embedded steel

2 PRODUCTS

2 1 MATERIALS

Plastering materials

Cement To AS 3972

-Type GP

Limes for building To AS 1672 1

Sand To be fine sharp well-graded sand with a low clay content and free from efflorescing salts

Gypsum plaster

General To be a proprietary product containing calcium sulfate hemihydrate with additives to modify setting

Metal lath Expanded metal to AS 1397

Lime putty

General Prepare lime putty as follows

Stand dry hydrate of lime to AS/NZS 1672 1 and water for 24 hours or more without drying out

Stand quicklime and water for 14 days or more without drying out

Gauged mixes

Workability To improve workability mixes containing only cement and sand may be gauged by the addition of lime up to 25% of the cement content (i e not as a substitute for the cement)

Bonding products

General To be proprietary products manufactured for bonding cement-based plaster to solid substrates

Colouring products

General To be proprietary products manufactured for colouring cement plaster

Integral pigment proportion □ 5% by mass of cement

3 EXECUTION

3 1 SUBSTRATE

Substrates

General Ensure substrates have

Any deposit or finish which may impair adhesion of plaster cleaned off

If framed or discontinuous support members in full lengths without splicing

If solid or continuous excessive projections hacked off and voids and hollows filled with plaster stronger than the first coat and not weaker than the substrate

Absorbent substrates If suction is excessive control it by dampening but avoid over-wetting and do not plaster substrates showing surface moisture

Dense concrete If not sufficiently rough to provide a mechanical key roughen by scabbling or the like to remove 2 mm of the laitance and expose the aggregate then apply a bonding treatment

Untrue substrates If the substrate is not sufficiently true to ensure conformity with the thickness limits for the plaster system or has excessively uneven suction resulting from variations in the composition of the substrate apply additional coats without exceeding the thickness limits for the substrate or system

Beads

Location At internal locations fix beads as follows

Angle beads At all external corners

Movement control beads At all movement control joints

Stop beads At all terminations of plaster and junctions with other materials or plaster systems

Joints in beads Use dowels to maintain alignment

Mechanical fixing to substrate ≤ 300 mm centres

Material

-Internal location Metallic coated sheet A2 150

Bonding treatment

General If bonding treatment is required throw a wet mix onto the background as follows

Cement plaster 1 part cement to 2 parts sand

Gypsum plaster 1 part gypsum to 2 parts sand

Curing Keep continuously moist for □ 5 days and allow to dry before applying plaster coats

Thickness From 3 < 6 mm

Embedded items

General If there are water pipes and other embedded items sheath them to permit thermal movement

Lath

Location

-Chases If chases or recesses are 50 mm wide or greater fix metal lath extending 75 mm beyond each side of the chase or recess

Metal and other non-porous backgrounds Fix metal lath to provide a key

3 2 PLASTERING

Applications

Base coats Scratch-comb each base coat in two directions when it has stiffened

Metal lath Press the plaster through the apertures of expanded metal lath and wings of beads

Finishing treatments

Plain

-Carborundum stone To be a smooth finish free from sand by rubbing the finish coat with a fine carborundum stone when it has set hard

Steel trowel To be a smooth dense surface by steel trowelling which is not glass-like and is free from shrinkage cracks and crazing

Wood or plastic float To be an even surface by wood or plastic floating the finish coat on application

Incidental work

General Return plaster into reveals beads sills recesses and niches Plaster faces ends and soffits of projections in the substrate such as string courses sills pilasters and corbels Run throating on soffits of external projections neatly finished Trim around openings

Joining up

General If joining up is required ensure joints will be imperceptible in the finished work after decoration

Thickness limits

One-coat work 12 – 15 mm

Multi coat work

First coat 9 – 15 mm

Setting coat 2 – 3 mm

Cement rendering

Proportions by volume (cement lime sand) for clay and dense concrete brick

Clay and dense concrete brick 1 0 25 4

Two or three coat set plaster

Proportions by volume

Undercoats 1 1 6 cement lime sand

Setting coat 2 1 lime putty gypsum plaster

Tolerances

General Finish plane surfaces within a tolerance of 6 mm in 3000 mm determined using a 3000 mm straight edge placed anywhere in any direction Finish corners angles edges and curved surfaces within equivalent tolerances

Control joints

General Provide joints in the finish to coincide with control joints in the substrate Ensure that the joint in the substrate is not bridged during plastering

Depth Extend the joint right through the plaster and reinforcement to the substrate

-Width 3 mm or the same width as the substrate joint whichever is greater

Damp proof courses Do not continue plaster across damp-proof courses

Plastering on metal lath Provide movement joints to divide the plastering area into rectangular panels 10 m^2

V-joints Provide V-joints cut right through the plaster to the substrate at the following locations

Abutments with metal door frames

Abutments with other finishes

Junctions between different substrates

External corners

General Tool external corners in cement render

Weepholes

General Tool cement render at proprietary weepholes(Weepa)

Curing

General Prevent premature or uneven drying out and protect from the sun and wind

Keeping moist If a proprietary curing agent is not used keep the plaster moist as follows

Base coats and single coat systems Keep continuously moist for 2 days and allow to dry for 5 days before applying further plaster coats

Finish coats Keep continuously moist for 2 days

4 SELECTIONS

4 1 SCHEDULE

Plastering schedule

Test panel	Provide a test panel for each specified finish prior to commencing plastering for approval
Internal plastering	Multi coat work – Steel trowel set plaster
External plastering CR	Single coat work – Steel trowel cement plaster for paint finish by others
External plastering CRO	Single coat Cement render oxide colour to be selected

0612 CEMENTITIOUS TOPPINGS

1 GENERAL

1 1 CROSS REFERENCES

Associated worksections

Associated worksections Conform to the following

Waterproofing-wet areas for waterproofing of wet areas

Painting for priming of embedded steel

2 PRODUCTS

2 1 GENERAL

Materials

Cement To AS 3972

Type GP

Sand To be fine sharp well graded sand with a low clay content and free from efflorescing salts

Admixtures To AS 1478 1

3 EXECUTION

3 1 PREPARATION

Substrates

General Ensure substrates have

Any deposit which may impair adhesion of monolithic or bonded toppings cleaned off

Excessive projections removed and voids and hollows filled with a mix not stronger than the substrate nor weaker than the topping

Hardened concrete roughened by scabbling or the like to remove 2 mm of the laitance and expose the aggregate

Bonded toppings

General Before laying topping wash the substrate with water and use a bonding product or treat as follows

Keep wet for ≥ 2 hours

Remove surplus water and brush on neat cement or a clean slurry of cement and water

Place the topping while the slurry is wet

3 2 APPLICATION

Laying

General Spread the mix and compact Strike off consolidate and level surfaces to finished levels

Toppings over 50 mm thick

Lay in two layers of equal thickness

Place a layer of reinforcement between the layers of toppings Lap reinforcement 100 mm and tie Do not create four way laps

3 3 SURFACE FINISHES

Finishing methods – primary finish

Steel trowel finish After machine floating finish as follows

Use power trowels to produce a smooth surface relatively free from defects

When the surface has hardened sufficiently use steel hand trowels to produce the final consolidated finish free of trowel marks and uniform in texture and appearance

Temperature

General Ensure that the temperature of mixes substrates and reinforcement are at the time of application 5°C or 35°C

Severe temperature If the ambient shade temperature is greater than 38°C do not mix topping

3 4 MOVEMENT JOINTS

General

General Provide movement joints as follows

Over structural (isolation contraction expansion) joints

-To divide complex room plans into rectangles

Around the perimeter of the floor

-At junctions between different substrates

To divide large topping finished areas into bays

Depth of joint Right through to the substrate

Depth of sealant One half the joint width or 6 mm whichever is the greater

3 5 COMPLETION

Curing

General Prevent premature or uneven drying out and protect from the sun and wind

Curing Use a curing product or as soon as it has set sufficiently keep the toppings moist by covering with polyethylene film for ≥ seven days

4 SELECTIONS

4 1 SCHEDULE

Topping schedule

Location	
Study Bed 2 3 4 Guest room incl wardrobes	Cement topping over existing concrete slab for carpet and underlay by others

0621 WATERPROOFING – EXTERNAL TERRACES AND WET AREAS

1 GENERAL

1 1 STANDARD

General
Waterproofing To AS3740

2 PRODUCTS

2 1 MATERIAL COMPONENTS

Membranes
Standard To AS/NZS 4858

Membrane systems
General To be a proprietary membrane systems having one of the following stating that the system is suitable for the intended wet area waterproofing as follows

A current appraisal report issued by either CSIRO Building Products and Systems Appraisals

A current BRANZ Appraisal Certificate

3 EXECUTION

3 1 APPLICATION

Protection
General Protect membrane from damage during installation and for the period after installation until the membrane achieves its service characteristics that resist damage

Drains
Floor wastes Turn membrane down onto the floor waste puddle flanges and adhere

Extent
General Extend membrane for the whole of the floor area for

- Ensuites 1 2 3 + 4 Toilet 1 + 2 Bath and laundry
- First floor Verandah (over sitting room Living and Verandah

Wet areas
Walls and floors of toilets laundries ensuites baths showers splash backs and floor wastes To BCA clause 3 8 1 2

External balconies
Requirement Provide a waterproof membrane to 1st floor Verandah and Lanai and Pool Deck under timber decking which forms a drained tank suitable for continuous immersion Do not run under bounding walls

Curing of liquid applied systems
General To the manufacturers instructions

Curing Allow membrane to fully cure before tiling

Membrane terminations
Edge protection Provide > 150 mm upturns

Anchoring Secure sheet membranes along the top edge

Edge protection Protect edges of the membrane

Waterproofing above terminations Waterproof the structure above the termination to prevent moisture entry behind the membrane using tiler s angle and finish overlaps

Membrane vertical penetrations
Pipes ducts and vents Provide separate sleeves for all pipes ducts and vents and have fixed to the substrate

Membrane horizontal penetrations

Sleeves Provide a flexible flange for all penetrations bonded to the penetration and to the membrane

Balcony membrane about doors and windows

Install membrane prior to the fixing of door or window frames

Membrane upturn

Exposed areas 150 mm upturn from the finished external floor level or overflow level whichever is the higher

Overlaying finishes on membranes

Compatibility If a membrane is to be overlayed with another system such as tiles pavers or acoustic insulation provide an overlaying system that is compatible with and not cause damage to the membrane

Bonded or partially bonded systems If the topping or bedding mortar requires to be bonded to the membrane provide sufficient movement joints in the topping or bedding mortar to reduce the movement over the membrane

Double slip sheet Lay a double slip sheet over the membrane to separate it from the supports to timber floor framing and battens

3 2 COMPLETION

Reinstatement

General Keep traffic off membrane surfaces until bonding has set or for 24 hours after laying whichever period is the longer

Repair Repair or replace faulty or damaged work

Warranty

Waterproofing Cover materials and workmanship in the terms of the warranty in the form of interlocking warranties from the supplier and the applicator

Form Against failure of materials and execution under normal environment and use conditions

Period As offered by the supplier

4 SELECTIONS

4 1 SCHEDULE

Waterproof membrane

Under timber decking	Sikatite-WB water based membrane
Under internal + external tiling	Sikatite-LM water based membrane

Waterproofing schedule

Extent	Location	
Internal membrane to floor and walls	Ensuite 1 2 3 +4 Toilets 1 + 2 Laundry and Bath	To comply with BCA requirements for Wet areas
External membrane to floor	1st floor Verandah	Full extent of floor area under external timber decking
External membrane to floor	1st floor Plant room	Full extent of floor area
External membrane to floor	Lanai Deck + Pool Deck	Full extent of floor area under external timber decking and over Plant room and exposed concrete soffit

0631 TILES

1 GENERAL

1 1 STANDARDS

Tiling

General Comply with the recommendations of AS 3958 1 and AS 3958 2

2 PRODUCTS

2 1 MATERIALS

Adhesives

Standard To AS 2358

PVA (polyvinyl acetate)-based adhesives Do not use in wet areas or externally

Mortar materials

Cement To AS 3972

Type GP

Sand Fine aggregate with a low clay content selected for grading sharp and free from efflorescing salts

Bedding mortar

Proportioning Select proportions from the range 1 3 to 1 4 cement sand by volume to obtain satisfactory adhesion Provide minimum water

Grout

General Cement-based proprietary grout mixed with water Fine sand may be added as a filler in wider joints

Terra cotta tiles Proprietary polymer modified grout

Pigments for coloured grout Colourfast fillers compatible with the grout material For cement-based grouts lime-proof natural or synthetic metallic oxides compatible with cement

3 EXECUTION

3 1 SUBSTRATES

Drying and shrinkage

General Before tiling allow at least the following times to elapse (for initial drying out and shrinkage) for these substrates

Concrete slabs 42 days

Concrete blockwork 28 days

Toppings on slabs and rendering on brick or blockwork A further 21 days

Rendering on swimming pool shell A further 28 days minimum

3 2 APPLICATION

Preparation of substrates

General Ensure substrates are as follows

Clean and free of any deposit or finish which may impair adhesion or location of tiles

Compatable with all components of the floor system

Absorbent substrates If suction is excessive control it by dampening but avoid over wetting and do not apply mortar bedding to substrates showing surface moisture

Dense concrete If not sufficiently rough to provide a mechanical key roughen by scabbling or the like to remove 3 mm of the surface and expose the aggregate then apply a bonding treatment

Cutting and laying

Cutting Cut tiles neatly to fit around fixtures and fittings and at margins where necessary Drill holes without damaging tile faces Rub edges smooth without chipping

Laying Return tiles into sills reveals and openings Butt up to returns frames fittings and other finishes Strike and point up beds where exposed Remove tile spaces before grouting

Exposed edges

General If available provide purpose-made ceramic border tiles with the exposed edge (whether round square or cushion) glazed to match the tile face

Accessories

General If available provide tile accessories such as round edge ceramic tiles cove tiles step treads and nosings to stairs landings and thresholds skirtings sills copings and bath vents which match the surrounding tiles composition colour and finish

Variations

General Distribute variations in hue colour or pattern uniformly by mixing tiles or tile batches before laying

Protection

Floor tiles Keep traffic off floors until the bedding has set and attained its working strength

Setting out

Joint widths Set out tiles to give uniform joint widths within the following limits

-Internal ceramic tiling 1 5 to 3 mm

Mosaic tiling To match mounting pattern

Quarry tiles 6 to 12 mm

-Vitrified floor tiles 3 to 5 mm

Stone tiles 1 5 to 3 mm

Joint alignment Set out tiling with joints accurately aligned in both directions and wall tiling joints level and plumb

Joint position Set out tiles from the centre of the floor or wall to be tiled and if possible ensure cut tiles are a half tile or larger

Fixtures If possible position tiles so that holes for fixtures and other penetrations occur at the intersection of horizontal and vertical joints or in the centre of tiles

Falls and levels

General Grade floor tiling to even and correct falls generally and to floor wastes and elsewhere as required Make level junctions with walls If falls are not required lay level

Minimum fall generally 1 100

Minimum fall in shower areas 1 60

Change of finish Maintain finished floor level across changes of floor finish including carpet

Preparation of tiles

Adhesive bedding Fix tiles dry

Mortar bedding Soak porous tiles in water for half an hour and then drain until the surface water has disappeared

Terra cotta tiles Use pre sealed tiles or apply a breathable sealer and lay dry If a final sealed finish is selected use a compatible laying sealer

Floor finish dividers

General Finish tiled floors at junctions with differing floor finishes with a min 3 mm thick aluminium dividing strip fixed to the substrate

- changes of floor finish occur at doorways make the junction directly below the closed door
- At shower recess 15 mm set down

Shower screen

General Finish tiled floors flush with lip of recessed aluminium glazing section at floor and walls

Bath ventilation

Requirement Ventilate the space below fully enclosed baths with at least 2 vermin proofed ventilating tiles

Sealed joints

General Fill joints with silicone sealant and finish flush with the tile surface where tiling joins sanitary fixtures and at corners of walls in showers

Stone paving joints

Do not lay stone adjacent bituminous materials

Seal or isolate abutting faces of stone paving where abuts brickwork or concrete to prevent salt movement

Stone facing

Secure stone facing with stainless steel pins and ties

Provide a dampcourse under copping tile

Sealing stone tiles

General Seal external and internal stone floor tiles including stone thresholds and stone copping tiles with penetrating sealer Dry Treat penetrating sealer application recommended for stone applied in accordance with the manufacturers written instructions and stone suppliers recommendations before grouting Apply in accordance with manufacturers written instructions

4 SELECTIONS

4 1 SCHEDULE

Ceramic and stone tile schedule

Tile type

Type	Code	Manufacturer	Tile	Size	Tile colour	Grout colour
A	TF	Glennon	vitrified floor tile	100x100	TBC	cement
B	TF	Glennon	vitrified floor tile	100x100	TBC	cement
C	TW	Johnson	Gloss glazed wall tile	100 x 200	White	white
D	ST	TBC	Selected dimensioned stone threshold	50 thick x 150 wide	TBC	Coloured grout
E	PT	TBC	Selected dimensioned stone	300 x 300 x 30 thick	TBC	Coloured grout
E/1	PT	TBC	Selected dimensioned stone	Full width bull nose step tread 300 wide x 50 thick	TBC	Coloured grout
F	STF	TBC	Selected dimensioned stone	300 x 300 x 50 thick	TBC	Coloured grout
G	TP	TBC	Mosaic	Nom 25 x 25	TBC	white

Tile location

Location	Floor	Skirting	Wall	Accessories	Notes
Toilet 1	B	B	-	-	
Ensuite 1 2 + 3	A	C	C	PVC external wall corners	
Bath	A	C	C	PVC external wall corners	
Laundry	A	A	C		Splashback tile 4 high skirting tile to cupboard kick board
Ensuite 4	A		C	PVC external wall corners	
Toilet 2	B	C	C	PVC external wall corners	

Location	Floor	Skirting	Wall	Accessories	Notes
External Door thresholds	D			Full width x 150 wide square edge 50 thick	Includes brass weather bar to hinged doors bifold doors and sashless double hung window and recess for track to bifold + sliding doors
Ex Verandah Entry steps Terrace + external paving	E+E/1		-	Full width x 300 wide bull nose tread to steps and thresholds	Stone tile 30 thick Stone tile to step risers 30 thick Step tread + top tread 50 thick Seal tiles
Entry step walls Terrace + external paving	-	-	F		Stone tile ~~to wall face and~~ copings weathered to fall Seal copping tiles
Pool	G		G		
~~Pond~~	~~G~~		~~G~~		~~STF to surround~~

0655 TIMBER FLOORING

1 GENERAL

1 1 CROSS REFERENCES

Associated worksections

Associated worksections Conform to the following

Concrete for substrates

Flooring and decking for substrates

-*Stairs* for timber stair treads

1 2 TOLERANCES

Tolerances

Maximum deviation of the finished floor surface 3 mm under a 3 m straight edge laid in any direction

2 PRODUCTS

2 1 GENERAL

Adhesive

Ventilation Provide adequate ventilation appropriate for moisture curing

2 2 STRIP FLOORING

New timber

General Conform to the **Grading table**

Grading table

Product	Standard	Grade
Hardwood	AS 2796 2	Select Grade

Identification

General Identify timber using branding or certification

3 EXECUTION

3 1 PREPARATION

Storage

General Deliver timber flooring to site in unbroken wrapping or containers and store so that its moisture content is not adversely affected Do not store on the background until the moisture content of the background is suitable for the installation of the floor Do not store in areas of wet plaster

Substrates

General Ensure substrates are as follows

Clean and free of any deposit or finish which may impair adhesion or location and functioning of movement joints

If solid or continuous

Excessive projections are removed

Voids and hollows > 10 mm with abrupt edges are filled with a cement sand mix not stronger than the substrate nor weaker than the bedding

Depressions < 10 mm are filled with a latex modified cementitious product with feathering eliminated by scabbling the edges

Flatness < 3 mm deviation of the surface under a 3 m straight edge laid in any direction with no abrupt variations greater than 1mm over 250 mm

Moisture content

General Do not commence installation of flooring unless

Concrete substrate The moisture content of the concrete has been tested to AS/NZS 2455 1 Appendix B and values obtained as follows

≤ 5 5% when tested by the electrical resistance test

≤ 70% when tested by the hygrometer test

Plywood underlays or timber flooring products The moisture content has been tested to AS/NZS 1080 1 and values obtained as follows

Airconditioned buildings 8 to 10%

Intermittently heated buildings 10 to 12 5%

Unheated buildings 12 to 15%

Conformance If these values are not achieved allow for acclimatisation

3 2 SUPPORT FIXING – STRIP FLOORING

Battens for strip flooring on concrete slabs

General Ensure support members are in full lengths without splicing

Framing fixed direct Fix seasoned battens to the concrete slab so that their top surfaces are aligned

-Battens 70 x 35 mm seasoned timber

Spacing of fasteners < 600 mm

Framing fixed on resilient pads Fix seasoned battens on resilient pads to the concrete slab so that their top surfaces are aligned

-Pad spacing 400 mm centres

Vapour barrier under battens 200 □m high-impact resistant polyethylene Lap 300 mm seal the laps with pressure sensitive tape and return up the vertical surfaces and trim at the level of the flooring

3 3 FLOOR FIXING

Room environment

General During fixing and stabilising operate the heating system of radiant heated or airconditioned rooms at 1 5°C above normal maximum temperature

Adhesive

General Use a urethane elastomer adhesive in addition to nails as follows

Continuously supported flooring 4 mm beads at 300 mm spacing at right angles to run of flooring

Intermittently supported flooring 6 mm bead along each joist or batten

Nailing

General Ensure the boards are in contact with the joists at the time of nailing particularly where boards are machine nailed Skew nail in a uniform pattern If nails are to be less than 10 mm from ends of sheets or boards pre-drill nail holes 0 – 1 mm undersize

Secret nailing Do not use boards of more than 85 mm cover width and use one nail or staple skewed at 45° Do not cramp more than one board at a time

Sinking Punch nails 3 mm below finished surfaces and fill the sinking flush with a material tinted to match the flooring which is compatible with the floor finish

Strip flooring

Installation Lay in straight and parallel lines with each board firmly butted to the next and firmly bedded on the subfloor Cramp sufficient only to bring the boards together and no more than 800 mm of flooring at any one time

Adhesive Apply adhesive in addition to nailing over softwood joists

Set-out Locate joints in boards so that they are evenly and symmetrically distributed and as follows

Butt joints Centrally on supports

End-matched joints Not in adjacent boards

Minimum number of spans across supports 2

Movement control joints

Perimeters Provide 12 mm wide joints against vertical building elements

Between underlay sheets 6 mm

Floors under 6 x 6 m Partially cramp strip flooring to allow a 1 mm gap every 600 mm or 1 5 mm every metre

Floors over 6 x 6 m Additionally divide floors into maximum dimensions of 6 m with joints 4 mm wide filled with a flexible sealant compatible with the applied finish

3 4 COMPLETION

Protection

General Provide protection as follows

Floors With hardboard taped at all butt joints Do not cover with sheet plastic

Stair treads Full timber or plywood casing

4 SELECTIONS

4 1 SCHEDULES

Strip flooring schedule

Strip flooring	**T+G**	Refer Provisional sum allowance for supply
Species or group		To be confirmed
Grade		Select grade
Profile		Secret nail end matched T+G
Fixing Secret nailed		Secret nail
Size (width x thickness mm)		Ex 100 x 25

0656 FLOOR SANDING AND FINISHING

1 GENERAL

1 1 CROSS REFERENCES

Associated worksections

Associated worksections Conform to the following

Painting for applied finishes to external decking and clear and opaque finishes to timber items and internal floors

1 2 STANDARD

Floor sanding and finishing

General To AS 4786 2

2 PRODUCTS

2 1 FINISH

Filler

General Non-oil based and compatible with the coating system

Coating system

Proprietary floor finish system Refer to Schedule

Quality Provide premium quality lines

Combinations

Do not combine clear finishes from different manufacturers in a coating system

Provide only the combinations of filler stain and sealer recommended by the manufacturer of the top coats

Delivery Deliver all products to the site in the manufacturer s labelled and unopened containers

3 EXECUTION

3 1 PREPARATION

Lighting

General Provide supplementary lighting to allow close examination of the entire process

Substrate

General Do not commence sanding until

Adhesives have cured

Floor heating has been switched off for 48 hours

Filler has dried as indicated by the colour fading

Ensure substrates are clean and free of any deposit which may impair the following

Application of the coating system

Adhesion of resilient finishes

Preparation

General Punch nails 3 mm below the surface Remove tacks Fill open grained timber with materials compatible with those used in subsequent finishing operations

3 2 SANDING

Basic sanding - general

General Remove irregularities caused by cupping or mismatching of the flooring materials with a drum type sanding machine and coarse abrasives

Basic sanding – strip flooring

General First cut at 45° to the length of the boards second cut at 90° to the first cut and third cut parallel to the length of the boards

Boundary areas Bring to the same surface condition as the main sanded area using disc sanding

Inaccessible areas Hand scrape to produce an even plane surface

Stopping and filling

General Select a colour to produce an average match with the final coated timber in tone colour and texture

Fill minor cracks and stop punched nails with a putty knife

Fill deeper holes in layers > 6 mm allowing each fill to dry Ensure cavities are filled slightly above the surface without air pockets

Flood fill porous timber with the cloth application of water based filler diluted to a creamy consistency

Finish sanding – strip flooring

General After basic sanding cut twice parallel to the length of the boards using increasingly fine abrasives If hard surfaces show excessive scratching apply an initial cut at 90° to the grain direction

Boundary areas Bring to the same surface condition as the main sanded area using disc sanding

Inaccessible areas Hand scrape to produce the same surface condition as the main sanded area

Water based coating system For a water based coating system use a final grade of paper of minimum F220 screen back

Cleaning

General After each sanding operation remove all dust by all of the following

Removal from cracks by hand

Vacuum cleaning

Tack rag cleaning

3 3 COATING SYSTEM

Wet paint' warning

General Place notices conspicuously and do not remove them until the coating system has cured and hardened

Application

General Apply the coating system in accordance with the manufacturer s printed instructions Maintain a wet edge throughout the whole area

Sanding

General Fine sand between coats only within the depth of the finish and remove dust

Timber floor coating system

Coating If edge bonding of strip flooring is known to occur apply a sealer compatible with the final coat

Final coats Apply number of final coats to the manufacturer s written instructions

3 4 COMPLETION

Cleaning

General Vacuum clean the area and protect with fabric drop sheets Do not use plastic sheeting

4 SELECTIONS

4 1 SCHEDULES

Floor sanding and finishing schedule

Floor sanding	Basic + fine sanding for new T+G flooring
Floor coating	Peerless Clear satin tung oil 2 coats 1 coat Gemini satin sealer coat
Alternative coating system	3 coats Livos Ardvos wood oil

0671 PAINTING

1 GENERAL

1 1 STANDARD

Painting

General Comply with the recommendations of those parts of AS/NZS 2311 which are referenced in this worksection

2 PRODUCTS

2 1 PAINTING MATERIAL

Paint brand

Quality If the product is offered in a number of levels of quality provide premium quality lines

Low VOC emitting paints

VOC limits for low odour/low environmental impact paint types

-Primers and undercoats < 5 g/litre

-Low gloss white or light coloured latex paints for wall areas < 5 g/litre

Coloured low gloss latex paints < 16 g/litre

Gloss latex paints for timber doors and trims < 75 g/litre

Combinations

General Do not combine paints from different manufacturers in a paint system

Clear timber finish systems Provide only the combinations of putty stain and sealer recommended by the manufacturer of the top coats

Delivery

General Deliver paints to the site in the manufacturer s labelled and unopened containers

Tinting

General Provide only products which are colour tinted by the manufacturer or supplier Alternatively add tinters or stainers only if this is without detriment to the durability or aesthetic performance of the product

Putty and fillers

Material To the recommendation of the paint system manufacturer as suitable for the substrate and compatible with the primer

3 EXECUTION

3 1 PREPARATION

Standards

General To AS/NZS 2311 Sections 3

Protection of steelwork To AS/NZS 2312 Sections 4

Order of work

Other trades Before painting complete the work of other trades as far as practicable within the area to be painted except for installation of fittings floor sanding and laying flooring materials

Clear finishes Complete clear timber finishes before commencing opaque paint finishes in the same area

Protection

Fixtures Remove door furniture switch plates light fittings and other fixtures before starting to paint and refix in position on completion of painting

Adjacent surfaces Protect adjacent finished surfaces liable to damage from painting operations

Wet paint warning

General Place notices conspicuously and do not remove them until the paint is dry

Repair

General Clean off marks paint spots and stains progressively and restore damaged surfaces to their original condition Touch up new damaged decorative paintwork or misses with the paint batch used in the original application

Substrate preparation

General Prepare substrates to receive the painting systems

Cleaning Clean down the substrate surface Do not cause undue damage to the substrate or damage to or contamination of the surroundings

Filling Fill cracks and holes with fillers sealants putties or grouting cements as appropriate for the finishing system and substrate and sand smooth

Clear finish Provide filler tinted to match the substrate

Clear timber finish systems Prepare the surface so that its attributes will show through the clear finish without blemishes by methods which may involve the following

Removal of bruises

-Removal of discolourations including staining by oil grease and nailheads

-Bleaching where necessary to match the timber colour sample

Puttying

-Fine sanding (last abrasive no coarser than 220 grit) to show no scratches across the grain

3 2 PAINTING

Standard

General To AS/NZS 2311 Section 6

Protection of steelwork To AS/NZS 2312 Section 8

Light levels

General During preparation of surfaces painting and inspection maintain light levels ro allow close examination of the entire process

Paint application

General Apply the first coat immediately after substrate preparation and before contamination of the substrate can occur Apply subsequent coats after the manufacturer s recommended drying period has elapsed

Quality

General Ensure each coat of paint or clear finish is uniform in colour gloss thickness and texture and free of runs sags blisters or other discontinuities

Priming before fixing

General Apply one coat of wood primer (2 coats to end grain) or clear timber sealer to clear coated timber to the back of the following before fixing in position

-External fascia boards

Timber door and window frames

Bottoms of internal doors to wet areas

-Perimeter of all external doors

-Associated trims and glazing beads - clear coated timber

Timber board cladding - Clear coated timber

Spraying

General If the paint application is by spraying use conventional or airless equipment which does the following

Satisfactorily atomises the paint being applied

Does not require the paint to be thinned beyond the maximum amount recommended by the manufacturer

Does not introduce oil water or other contaminants into the applied paint

Paint with known health hazards Not permitted on site

Sanding

Clear finishes Sand the sealer using the finest possible abrasive (no coarser than 320 grit) and avoid cutting through the colour Take special care with round surfaces and edges

Repair of galvanizing and zinc rich coating

General For galvanized surfaces which have been subsequently welded or which have been welded prime the affected area

Primer Organic zinc rich coating for the protection of steel

Tinting

General Tint each coat of an opaque coating system so that each has a noticeably different tint from the preceding coat except for top coats in systems with more than one top coat

Services

General If not embedded paint new services and equipment except chromium anodised aluminium GRP UPVC stainless steel non-metallic flexible materials and normally lubricated machined surfaces Repaint proprietary items only if damaged

3 3 PAINT SYSTEMS

Paint system description

Generally The paint system is referred to by its final coat

Primers and undercoats Provide primers and undercoats recommended by the manufacturer of the selected final coat as suitable for the substrate and the final coat

Selection Provide paint that conform to the **Paint final coat table**

Paint final coat table

Final coat	Applicable Australian Standard
Interior	
Flat latex	AS 3730 1
Floor varnish – moisture cured	AS 3730 27
Floor varnish – two pack isocyanate cured	AS 3730 27
Low gloss latex	AS 3730 3
Semi gloss latex	AS 3730 2
Gloss latex	AS 3730 12
Exterior	
Full gloss solvent - borne	AS 3730 6
Flat latex	AS 3730 8
Low gloss latex	AS 3730 8
Gloss latex	AS 3730 10
Stain lightly pigmented	AS 3730 28
Latex stain opaque	AS 3730 16
Semi gloss latex	AS 3730 9
Paving	
Paving paint semi gloss	AS 3730 29
Paving paint gloss	AS 3730 29

4 SELECTIONS

4 1 SCHEDULES

Paint final coat table

Provide paints as follows

Type	*Manufacturer + paint system*	*Final coat*	*Notes / APAS specification*
	Exterior		
A	Dulux Super Enamel High Gloss	Full gloss solvent-borne	GPC E-15/3-1995 *(Full gloss enamel (buildings) – Exterior quality)*

Type	Manufacturer + paint system	Final coat	Notes / APAS specification
B	Dulux Weathershield Low Sheen Acrylic	Low gloss latex	GPC L 26/3-1995 (*Latex paint interior and exterior (buildings) Flat or low gloss finish for exterior use*)
C	Dulux Weathershield Gloss Acrylic	Gloss latex	GPC L-28 1995 (*Gloss exterior latex paint (buildings)*)
D	Feast + Watson Decking Oil Natural	Stain clear	
E	Dulux Durepon P14 primer Dulux Luxathane	Final coat Gloss	Preparation steel finish shot blast class 2 ½
	Interior		
F	Dulux Super Enamel High Gloss	Full gloss solvent-borne	GPC E-15/4-1995 (*Full gloss enamel (buildings) - For interior use*)
G	Dulux Super Enamel Semi Gloss	Semi gloss solvent-borne	
H	Dulux Wash + Wear Flat Acrylic	Flat latex	GPC L-26/6-1995 (*Latex paint interior and exterior (buildings) - Washable flat finish for interior use*)
I	Dulux Wash + Wear Low Sheen Acrylic	Low gloss latex	GPC L-26/5-1995 (Latex paint *interior and exterior (buildings) - Low gloss finish for interior use*)
J	Dulux Wash + Wear Semi gloss Acrylic	Semi-gloss latex	GPC L-27 1995 (*Semi gloss interior latex paint (Buildings)*)
K	Peerless Tung Oil OR Livos Ardvos	Satin finish Gemini Satin Seal OR wood oil	
L	Cement Aids 02 9810 0725	Rokite	Clear concrete finish

Exterior painting schedule

Colours to be selected UNO

Item	Paint type	Colour
Timber fascia	C	
Timber posts	C	
Steel fascias	E	
Steel columns + beams	E	
Flashings MR1 + MR2	Colorbond	Windspray
Guttering	Colorbond	Windspray
Downpipes	Colorbond	Windsprav
External soffits	B	
Cement rendered masonry	C	
MRZ cladding		Zinc - Pre weathered finish
WB cladding	D	Clear
FC cladding	C	
Timber windows + doors UNO	D	Refer SCHEDULES - WINDOWS+DOORS Clear coat
Timber glazed doors	D	Clear coat
Timber doors	A	
Timber decking	D	Clear coat

Painting schedule

Colours to be selected UNO Ceilings white

Room/ Area	Walls	Ceiling	Floor	Internal timber door/ windows	Trim skirtings architrave	Steel beams, columns/ trim	Notes
Ground							
Entry	I	H	K	G	G	G	Tiles + T+G
Hall 1	I	H	K	G	G		
Hall 2	I	H	K	G	G		
Toilet 1	Tiled	H	tiled	G	G		
Study	I	H	K	G	G	G	
Guest bed	I	H	Carpet	G	G	G	
Ensuite 1	Tiled	H	tiled	G	G		H to wall above light pelmet
Living Dining room	I	H	K	G	G	G	
Sitting room	I	H	K	G	G	G	
Family room	I	H	K	G	G	G	H to wall to light shaft
Kitchen	I	H	K	G	G	G	
Hall 3	I	H	K	G	G		H to wall to light shaft
Bed 2	I	H	Carpet	G	G	G	
Ensuite 2	Tiled	H	tiled	G	G		H to wall above light pelmet + wall to light shaft
Bed 3	I	H	Carpet	G	G	G	
Ensuite 3	Tiled	H	tiled	G	G		H to wall above light pelmet + wall to light shaft
Bed 4	I	H	Carpet	G	G	G	
Bath	Tiled	H	tiled	G	G		H to wall above light pelmet + wall to light shaft
Laundry	I	H	tiled	G	G		Tile splash back
~~Roof store~~	~~I~~	~~H~~	-				~~Particle board unfinished~~
First							
Stair 1	I	H	K	G	G	G	Clear coat timber HR
Bed 1	I	H	Carpet	G	G	G	
Study	I	H	Carpet	G	G	G	
Wardrobe	I	H	Carpet	G	G		
Ensuite 4	Tiled	H	tiled	G	G		H to wall above light pelmet
AC plant	C	B					External Louvres
Lanai							
Lanai	I	H	K	G	G	G	
Store	I	H	K	G	G	G	
Hall 4	I	H	K	G	G		
Toilet 2	Tiled	H	tiled	G	G		
Pool plant / Store	I	-	L				Paint to fair face brick Off form conc soffit
Garage							

Room/ Area	Walls	Ceiling	Floor	Internal timber door/ windows	Trim skirtings architrave	Steel beams columns/ trim	Notes
Garage	I	H	L			E	E to steel columns and webs for Garage doors
Pump room			L				Fair face block walls

0702 MECHANICAL

1 GENERAL

1 1 CROSS REFERENCES

Associated worksections

Associated worksections Conform to the following

Windows and glazed doors worksection for louvre window assemblies

Electrical design and install worksection for electrical exhaust fan requirements

1 2 STANDARDS

General

Mechanical ventilation To AS/NZS 1668 1 and AS 1668 2 as required by the Building Code of Australia

Refrigeration systems To AS/NZS 1677 2 and the recommendations of SAA HB 40 1 and SAA HB 40 2

1 3 AIRCONDITIONING DESIGN

Airconditioning load calculations

General Calculate the cooling and heating loads using one of the following

Manual methods AIRAH DA9 ASHRAE or Carrier

Electronic methods ACADS-BSG Camel Carrier E20 or Trane Trace

Design basis

Outside design conditions Use outdoor design conditions listed in AIRAH DA9 Table 1 or Table 1A for the location geographically closest to the site and Comfort or non-critical process conditions

Inside design conditions

-Summer 24□C dry bulb 50% relative humidity

Winter 21□C dry bulb

Temperature variation Limit the temperature difference in airconditioned spaces served by the same zone or system to 3K

Between any 2 points in the space from floor level to 1500 mm above floor level > 2000 mm from cooking equipment and > 1000 mm from any other appliance

When outside conditions are in the range specified above

After the plant has been operating for one hour

-With the temperatures measured in the same 5 minute period

Zoning Divide the systems into temperature controlled zones to meet the specified permissible temperature variation and documented system divisions

Fresh air Supply fresh air to spaces with airconditioning systems via the air handling system

Heating Reverse cycle

Windows walls floors and roofs Refer to drawings for construction and insulation

Ambient noise emitted Lower than the level that can be heard within a habitable room in any neighbouring residential premises regardless of whether any door or window to that room is open

1 4 SUBMISSIONS

Design

Drawings Submit design drawings

Prepare drawings to show

On a plan the duct layout duct sizes locations of supply air registers and return air grilles

On sections to show duct reticulation as applicable

2 PRODUCTS

2 1 COMPONENTS

Standards

Ducted airconditioners To AS/NZS 3823 1 2

Non-ducted airconditioners To AS/NZS 3823 1 1

Equipment

Performance Supply equipment as follows

- Is made by a manufacturer with a demonstrated ability to provide spare parts and service promptly to the site
- That will operate within the specified range of outdoor design conditions under the calculated loads without excessive head pressure or icing
- Is labelled to AS/NZS 3823 2

Reverse cycle units Provide effective outdoor coil defrost facility that prevents room temperature dropping more than 2□C during defrost

Cabinet Aluminium powder coated steel or moulded acrylonitrile-butadiene-styrene (ABS) plastic with zinc coated steel or stainless steel fasteners Insulate and vapour seal cabinet and drain trays to prevent external condensation under all operating conditions

Drain trays Aluminium stainless steel or plastic to collect all moisture inside indoor and outdoor units

Filters Washable panel type ≥ 85% of arrestance when tested to AS 1324 2 Test Dust No 4

Coils Copper tube with aluminium plate fins

Supply diffusers

Type to be selected

Material powder coated aluminium

Return air grille

Type to be selected

Material powder coated aluminium

Controls

General Provide the following functions

- Temperature control for each zone located to accurately sense zone temperature
- Fan speed selection for multi and variable speed fans
- Day/night zone changeover if scheduled
- Time switch for each system with ≥ 6 temperature programs per day separate programs for each day of the week manual set point over ride and Vacation temperature set back

3 EXECUTION

3 1 DUCTWORK

Standard

Ductwork To AS 4254

Rigid duct

Material Metallic-coated sheet steel to AS 1397 coating class G2/Z275

Flexible duct

Material Alumidised fabric clamped on formed metal helix with insulation blanket wrapped around duct and covered with an outer vapour barrier

Installation Install flexible duct as straight as possible with minimum number of bends Maximise bend radius Check for and rectify any crushed flexible duct

Support To AS 4254 Limit sag to < 40 mm/m

Duct insulation

General Insulate ducts to reduce heat gain and prevent condensation Provide continuous vapour barrier around ducts carrying conditioned air Insulate flexible connections on ducts carrying air below ambient temperature

Cleaning
Clean interior of ductwork progressively during installation

3 2 REFRIGERATION PIPEWORK

General
Pipes To AS/NZS 1571

All pipe work to be concealed

Deemed to comply Split system manufacturer s standard pre charged piping kit Standard

Pipe insulation
General Insulate all refrigerant and drain piping that may sweat with chemically blown closed cell nitrile rubber in tubular form to ASTM C534 Protect insulation from sunlight and mechanical damage

Insulation thickness 13 mm for pipes < DN 20 19 mm otherwise

Condensate drains
Requirement Provide trapped □ DN 20 condensate drains to AS/NZS 3666 1 from each indoor coil and safety tray Provide drains from each reverse cycle outdoor coil and collect to drain to a waste outlet

3 3 UNIT INSTALLATION

General
Outdoor equipment Provide clearance around units for condenser air flow and maintenance access Ensure discharge air does not short-circuit to condenser intake

Equipment at ground level Mount on 100mm level concrete plinth or equivalent impervious material

Duct connections Provide internal or external flexible duct connections at indoor unit

Vibration isolation
Suspended units Provide □ 4 metal spring or rubber-in - shear isolation mountings with 25 mm static deflection and 98% isolation efficiency

Floor mounted units Provide neoprene waffle pads Bolt in place

Safety trays
General If leaks or condensation from equipment could cause nuisance or damage to the building or its contents provide a galvanized steel safety tray under the equipment

3 4 COMPLETION

Commissioning
General Commission the systems to manufacturer s recommendations using in the last 12 months calibrated instruments Check list Submit signed commissioning check list on completion

Cleaning
General Clean filters outdoor coils grilles and diffusers on completion

Operating and maintenance instructions
Provide written operating and maintenance instructions containing

Contractor s contact details for service calls

Manufacturers maintenance and operation literature

Manufacturers warranty certificates if the manufacturers warranty period is greater than the defects liability period

-Description of day to day operation

-Setting of time switches

-Schedule of recommended maintenance

Record drawing Provide a drawing of the system as installed

3 5 MAINTENANCE

General
Maintenance period The greater of 12 months from the date of completion of commissioning of the systems and the duration of the Defects Liability Period

Corrective maintenance Attend site and undertake corrective maintenance within 24 hours of receipt of verbal or written advice

Preventative maintenance Provide preventative maintenance recommended by the equipment manufacturer Provide all materials including consumable items and refrigerant

Summer preventative maintenance visit Provide at least one preventative maintenance visit during the months of December January or February Carry out preventative maintenance and provide electronic data logger or thermohydrograph to record temperatures at one location in each zone a period of 7 days Submit results If the temperature recorded is outside the specified tolerance identify and correct the cause and repeat the test

Maintenance reports Provide a signed maintenance report setting out the work done and any measured values after each visit

4 SELECTIONS

4 1 SCHEDULES

Ducted air conditioning system schedule

Air conditioning

Split ducted system	Refer Provisional Sum Allowance for supply and install ~~includes~~ excludes allowance for builders work and coordination of sub contractor
Areas served	– Bed 1 – Living/Dining – Family
Plant room location	1st floor plant
Duct reticulation	Roof space floor space allow for builders work and coordination
Design drawings	Submit details for approval

0802 HYDRAULIC

1 GENERAL

1 1 CROSS REFERENCES

Associated worksections

Associated worksections Conform to the following

Service trenching for service trenches

Roofing for roof plumbing

Waterproofing – wet areas for waterproofing of wet areas

Painting for priming steel or iron before installation and exposed piping required to be painted

1 2 AUTHORISED PRODUCTS

Standard

Listed in the WaterMark Product Database unless otherwise required by the Network Utility Operator

2 EXECUTION

2 1 INSTALLATION

Piping

General Install piping in straight lines and to uniform grades Arrange and support the piping so that it remains free from vibration and water hammer while permitting thermal movement Keep the number of joints to a minimum Prevent direct contact between incompatible metals

Concealment If practicable conceal piping and fittings requiring maintenance or servicing so that they are accessible within non-habitable enclosed spaces such as roof spaces subfloor spaces and ducts Keep pipelines in subfloor spaces at least 150 mm above ground and ensure access can be provided throughout for inspection Provide at least 25 mm clearance between adjacent pipelines (measured from the piping insulation where applicable)

Embedded pipes Do not embed pipes that operate under pressure in concrete or surfacing material

Building penetrations If piping or conduit penetrates building elements provide metal or PVC-U sleeves formed from oversized pipe sections

Pipe support materials To be the same as the piping or galvanized or non-ferrous metals with bonded PVC-U or glass fibre woven tape sleeves where needed to separate dissimilar metals

Cover plates Where exposed piping emerges from wall floor or ceiling finishes provide cover plates of non-ferrous metal finished to match the piping or of stainless steel

Connections to Network Utility Operator mains

General Excavate to locate and expose the connection points and connect to the Network Utility Operator mains On completion backfill and compact the excavation and reinstate surfaces and elements which have been disturbed such as roads pavements kerbs footpaths and nature strips

2 2 FINISHES

General

General Finish exposed piping including fittings and supports as follows

Internal locations such as toilet and kitchen areas Bright chrome plate

Externally and steel piping or worn fittings internally Paint

In concealed but accessible spaces (including cupboards and non-habitable enclosed spaces) Leave copper and plastic unpainted except for required identification marking Prime steel piping and iron fittings

Valves

General Finish valves to match connected piping

2 3 COLD AND HEATED WATER

Standards

General To AS/NZS 3500 1 AS/NZS 3500 4 or AS/NZS 3500 5

Copper pipe To AS 4809

Pipe material

General Hot + cold water copper

Insualte al heating wtare piping

Tap positions

Requirement Locate hot tap to the left of or above the cold water tap

Fittings and accessories

General Provide the accessories and fittings necessary for the proper functioning of the plumbing systems including taps valves outlets pressure and temperature control devices strainers gauges and pumps

Water heaters

Location Locate water heaters where they can be maintained or replaced without damaging adjacent structures fixtures or finishes

Standards

Minimum energy performance To AS/NZS 4692 2

-Gas hot water heaters To AS 4552 If a flue damper is available for the water heater supplied provide one

Tariff Install so that the heating system qualifies for the tariff concession or subsidy offered by the statutory authority

Isolating valves Provide isolation valves to water heaters

Heated water temperature

Standard To AS/NZS 3500 4

Temperature

Maximum temperature at ablution outlets 50°C

Maximum recommended temperature at kitchen sinks and laundry tubs 60°C

Cleaning

General On completion flush the pipelines using water and leave them clean

2 4 STORMWATER

Standard

General To AS/NZS 3500 3 or AS/NZS 3500 5

Engineered design

Refer to engineering drawings for design of surface storm water and roof storm water collection and disposal and storage

Cleaning

General During construction use temporary covers to openings and keep the system free of debris On completion flush the system using water and leave it clean

Pipe laying

General Lay pipelines with the spigot ends in the direction of flow

Downpipe connections

General Turn up drain branch pipelines to finish 50 mm above finished ground or pavement level

Subsoil drains

Connection Connect subsoil drains to the stormwater drainage system

Trench width Minimum 450 mm

Subsoil drains Provide proprietary perforated plastic pipe

Filter fabric Provide a polymeric fabric formed from a plastic yarn containing stabilisers or inhibitors to make the filaments resistant to deterioration due to ultraviolet light

Filter sock Provide a polyester permeable sock capable of retaining particles of 0 25 mm size Securely fit or join the sock at each joint

Pits and drains

Cover levels Locate the top of covers or gratings including frames as follows

In paved areas Flush with the paving surface

In landscaped areas 25 mm above finished surface

Gratings taking surface water runoff Set to receive the runoff without ponding

Installation storm water drains

Refer to ACO standard details

- Storm water drains in ex driveways Install ACO drains in reinforced concrete base minimum 150mm thick both sides and base flush with top of drain and 3mm below adjacent wearing surface
- Storm water drains in ex driveways (asphalt/concrete) and new concrete apron slab or driveway slab Install ACO drains in reinforced concrete base minimum 150mm thick both sides and base flush with top of drain and 3mm below adjacent wearing surface
- Storm water drains in new stone paving Install ACO drains in reinforced concrete base minimum 100mm thick both sides and base finish stone paving 3mm above top of grate

2 5 WASTEWATER

Standards

General To AS/NZS 3500 2 or AS/NZS 3500 5

On-site domestic wastewater treatment units To AS/NZS 1546 3

Engineered design

Refer to engineering drawings for design of waste treatment system

Cleaning

During construction Use temporary covers to openings and keep the system free of debris

On completion Flush the system using water and leave it clean

2 6 RAINWATER TANKS

Standards

Metal tanks and rainwater goods To AS/NZS 2179 1

Design and installation To the recommendations of SAA HB 230

Engineered design

Refer to engineering drawings for design of roof storm water collection and storage including rain water tanks accessories and connections

2 7 GAS

Standard

General To AS 5601

Bottled gas Installation to AS 1596 and requirements of NSW Rural Fire Service _ Guidelines for Single Dwelling Development applications

Installation

Supply connection manifold suitable for bottled gas including pipe reticulation to outlets where noted All connections to be in metal Polymer sheathed flexible gas supply lines are not acceptable

Buried pipes

Warning tape During backfilling lay plastic warning tape 300mm above and for the full length of buried gas pipes

-Type Minimum 100 mm wide with GAS PIPE UNDER marked continuously

Commissioning

General On completion of installation and testing turn on isolating and control valves and purge and charge the installation

3 SELECTIONS

3 1 SCHEDULE

Sinks basins baths WC shower trays and tapsets schedule

Location	Manufacturer	Type	Size/Colour
Toilet 1			
WC	Villeroy + Boch	Subway Wall Faced pan with **soft close toilet seat**	white
WC Cistern	Caroma	Mk3 Water Wafer dual flush Inwall cistern Option 1 Inwall access panel 325 x 170 mm	Stainless steel plate
Basin	Caroma	Liano wall basin	White one tap holes 470 deep x420 wide Bottle trap waste CP
Basin tapware	Caroma	Liano basin mixer 96142C5A	Chrome
Ensuite 1 2 3			
WC	Villeroy + Boch	Subway Wall Faced pan with **soft close toilet seat**	white
WC Cistern	Geberit	Vanity star cistern Art no 110 206 00 1 Pneumatic Push Access Plate (dual flush) stainless steel 206 x 140 mm	
Basin	Caroma	Liano wall basin	White one tap holes 470 deep x420 wide Bottle trap waste CP
Basin tapware	Caroma	Liano basin mixer 96142C5A	Chrome
Shower tapware	Caroma	Liano Shower mixer round	Chrome
Laundry			
Tub	Clarke	Flushline 7510/7610 with rinse by pass	550 x 380mm 30 l bench top mounted
Tapware	Caroma	Liano wall sink mixer 96189C4A	Chrome
W/ machine cocks	Caroma	Liano washing machine set 96172C H+C cocks	Chrome
Kitchen			
Sink	Franke under mount sink	- BMG 110 – 45 x 40 480 x 430 x 200 deep - ARX 110-35 350 x 435 x 180 deep	Stainless steel
Sink tapware		~~Supply by builder~~ ~~Vola KV1 chrome plated~~ Liano Sink Mixer	Bench mounted adjustable Chrome
Dish washer	Raymor	H+C - T4 series Chrome plastic	Chrome handle/ skirt
Chilled filtered water	Zip HydroTap	HydroTap chilled water only model 30003 3 5 l capacity (125 glasses / hr) five micron filter Tap bench mounted / over sink	306 W x457 D x 334 H
Bath			

WC	Villeroy + Boch	Subway Wall Faced pan with soft close toilet seat	white
WC Cistern	Geberit	Vanity star cistern Art no 110 206 00 1 Pneumatic Push Access Plate (dual flush) stainless steel 206 x 140 mm	
Basin	Caroma	Liano wall basin	White one tap holes 470 deep x420 wide Bottle trap waste CP
Bath	Bette	BetteForm B3800WOB	White 1800x800x420mm incl sound deadening
Basin tapware	Caroma	Liano basin mixer 96142C5A	Chrome
Bath tapware	Caroma	Liano Bath Mixer with outlet	Chrome
Shower tapware	Caroma	Liano Shower mixer round 96163C Liano adjustable shower head	Chrome
Shower floor waste		90 x90 square waste	satin chrome
Ensuite 4			
WC	Villeroy + Boch	Subway Wall Faced pan with soft close toilet seat	white
WC Cistern	Geberit	Vanity star cistern Art no 110 206 00 1 Pneumatic Push Access Plate (dual flush) stainless steel 206 x 140 mm	
Basin	Caroma	Liano wall basin	White one tap holes 470 deep x420 wide Bottle trap waste CP
Bath	Bette	BetteForm B3800WOB	White 1800x800x420mm incl sound deadening
Basin tapware	Caroma	Liano basin mixer 96142C5A	Chrome
Bath tapware	Caroma	Liano Bath Mixer with outlet	Chrome
Shower tapware	Caroma	Liano Shower mixer round 96163C Liano adjustable shower head	Chrome
Shower floor waste		90 x90 square waste	satin chrome
Toilet 2			
WC	Villeroy + Boch	Subway ~~close coupled suite~~ wall faced pan with soft close toilet seat	white
WC Cistern	Caroma	Mk3 Water Wafer dual flush Inwall cistern Option 1 Inwall access panel 325 x 170 mm	Stainless steel plate
Basin	Caroma	Liano wall basin	White one tap holes 470 deep x420 wide Bottle trap waste CP
Basin tapware	Caroma	Liano basin mixer 96142C5A	Chrome

Shower tapware	Caroma	Liano Shower mixer round 96163C Liano adjustable shower head	Chrome
Shower floor waste		90 x90 square waste	satin chrome
Lanai			
Sink	Franke under mount sink	- BMG 110 – 45 x 40 480 x 430 x 200 deep - ARX 110-35 350 x 435 x 180 deep	Stainless steel
Sink tapware		~~Supply by builder Vola KV1 chrome plated~~ Liano Sink Mixer	Bench mounted adjustable Chrome
Pool shower	Caroma	Liano Shower mixer round 96163C	Chrome fitting + Exposed water pipe to rose
Water supply			
Cold water piping		Copper	
Heated water piping		Insulated copper	
Gas			
Bottle gas		Locate manifold in Garage	
Gas piping		metal	
Reticulation		Garage to residence Roof walkway Residence to Lanai - In ground	
Water heater		bottled gas	
Manufacturer		Rinnai Infinity	
Model/capacity		26 - 26 l /minute	
Pre heat		Rinnai smartstart	
Water controllers/ (location)		Bath - Deluxe master Ensuite 4 – Deluxe master	
Location		Refer drawings	
Recess box (only to exposed location)		ABS plastic 395 x 1050 Full recess RBOX05 Galvanised steel hinged recessed cabinet for Smartstart	
Stormwater drains + grates			
Manufacturer		ACO drain	
Type SW 1		K100S 161/167 mm minimum depth	
Drain		Pre sloped fall drain + inline sump	
Size + grate		100 wide slotted Galvanised steel grate (D210kN)	
Type SW 2			
Drain		K100S 161/167 mm minimum depth Pre sloped fall drain + inline sump	
Size + grate		100 wide Heelguard S stainless steel grate light duty (A10kN)	
Type SW 3		100 wide Heelguard S stainless steel grate light duty	
Grate only		(A10kN) Installed in timber decking + sone paving	

0902 ELECTRICAL

1 1 GENERAL

1 2 CROSS REFERENCES

Associated worksections

Associated worksections Conform to the following

Service trenching for service trenches

-*Pool* for pool lighting

Landscape drawings

Refer to *Landscape drawings* for lighting in landscaped areas

1 3 STANDARD

General

Electrical installation To AS/NZS 3008 1 1 and SAA HB 301

Telecommunications cabling To AS/ACIF S008 AS/ACIF S009 AS/NZS 3080 SAA HB 29 and SAA HB 252

Domestic electricity meter enclosures To AS 6002

1 4 INTERPRETATION

Abbreviations

General For the purposes of this worksection the abbreviations given below apply

ED S&IR The Electricity Distributor s Service and Installation Rules

RCD Residual Current Device

Definition

General For the purposes of this worksection the definitions given below apply

Telephony Speech and low band frequencies (= 100 kHz)

2 EXECUTION

2 1 GENERAL

Applications and compliance

General Submit all necessary applications for electricity supply Liaise with the electricity distributor and comply with the ED S&IR

Existing electricity mains

General Relocate and extend existing incoming 3 phase mains to the new electrical cupboard and *connect them to a new distribution baord*

Allow to make a new connection at an accessible point by way of an external connection point to the building or connection point within the building envelope

Provide a new distribution board

Electricity distributor's requirements Provide metering protection and control equipment as required by the ED S&IR

REFER to Schedules + Provisional Sum Schedule for supply and install allowance including GST

Switchboards

Standard To AS/NZS 3439 3

Construction Enclosed type with a hinged lid Provide circuit breakers and RCDs

Location Electrical cupboard

Maximum demand and spare capacity

General Calculate the maximum demand of the installation in accordance with AS/NZS 3000 and provide a copy of the calculations

Spare capacity Provide the following

> 10% spare capacity in mains and submains

> 25% spare capacity in final subcircuits

Load balancing Spread electrical load equally across circuits to prevent overloading and inadvertent circuit breaker operation

Fixed and stationary appliances Treat socket outlets supplying fixed or stationary appliances likely to cause an RCD to trip due to earth leakage currents in accordance with AS/NZS 3000 Do not connect to circuits that supply socket outlets intended for hand held or portable appliances

Spare spaces Provide switchboards with 25% spare positions for future single phase circuit breakers

Accessories

General Provide accessories necessary for a complete installation including but not limited to switches dimmers socket outlets and telecommunications outlets All accessories located in close proximity shall be of the same manufacture size and material

Mounting Flush mount accessories to the wall (or ceiling) unless noted otherwise Provide proprietary wall boxes in masonry and wall brackets in stud walls

Wet areas Position accessories in locations containing baths showers or other fixed water containers to comply with the requirements of AS/NZS 3000

Wiring

Concealed cables and conduits Provide conduits as necessary to allow wiring replacement without structural work or the removal of cladding lining plaster or cement rendering

Sequence of work Install conduits and cables before the installation of wall and ceiling linings and before any external landscaping works

Installation Do not penetrate damp-proof courses Arrange wiring such that it does not bridge the cavity in external masonry

Conduit sizes Provide conduits of sufficient internal diameter and arranged so that cables are not subject to undue mechanical stress during installation

Minimum conduit diameter 20 mm

Conduits for future use Provide a non-metallic drawstring having a breaking strain > 100 kg

Luminaires

Standard to AS/NZS 60598 1

Non-specified luminaires Provide a bayonet cap batten holder and lamp at each lighting point location where no luminaire is documented

Minimum energy performance standards To AS/NZS 4783 2 and AS/NZS 4782 2

Lighting control systems

General Locate grouped dimmers and control devices for future access Provide ventilation and acoustic treatment to suit the device characteristics

Appliances

General Provide final subcircuits and terminate at fixed appliances hot water units packaged airconditioning and other plant and equipment

Telecommunications

Submissions Submit required applications for telecommunications services to the telecommunications services carrier and liaise with the carrier

Installations requiring telephony only To AS/ACIF S009

Small office/home office installations Category 6 to AS/ACIF S009 and AS/NZS ISO/IEC 15018 and in accordance with the recommendations of SAA HB 29

Provide a modem connection to Study suitable for a wireless connection to all Bed rooms

Television systems

General Provide an analogue and digital television distribution system to AS/NZS 1367 and conforming to the recommendations of Digital Broadcasting Australia

Network Systems

Provide a coaxial cabling system suitable for satellite or cable network operators services

Conduits for future cabling 25 mm diameter with drawstrings

Intruder alarm system

General Provide intruder alarm system

Install existing system and extend Refer to Provisional sum Schedule for allowance

Standard To AS/NZS 2201 1

Smoke detection

General Provide smoke detectors to the requirements of the Building Code of Australia and where located on drawings Connect smoke detectors to mains power

Labelling

General Provide labels including control and circuit equipment ratings functional units notices for operational and maintenance personnel incoming and outgoing circuit rating sizes and origin of supply

Location Label telecommunications cables cross connects outlets in accordance with the requirements of AS/NZS 3080 and SAA HB 29

Label colours

Generally Black lettering on white background except as follows

Main switch and caution labels Red lettering on white background

Danger warning labels White lettering on red background

2 2 COMPLETION

Testing and certification

Electrical installations Test to AS/NZS 3017 Provide a certificate showing test results and certifying compliance with AS/NZS 3000

Telecommunications cabling To AS/NZS ISO/IEC 15018 and the recommendations of SAA HB 29 Test the cable link performance in accordance with the recommendations of SAA HB 29 at the maximum frequency and data rate for the cable class and the cable category Provide a certificate showing test results and certifying compliance with AS/NZS ISO/IEC 15018

Submission Provide Telecommunications Cabling Advice (TCA1)

Television and audio systems To AS/NZS 1367 Test the complete television and audio system Provide a certificate showing test results and certifying compliance

3 SELECTIONS

3 1 SCHEDULES

Existing electrical subcontractor	Colin Long 0417 254 137
Existing electricity mains	REFER to Provisional Sum Schedule for supply and install allowance including GST

Intruder alarm

Install existing system and extend	Refer to Provisional sum Schedule for allowance

Relocate existing incoming power supply

Relocate ex incoming mains power supply	Refer to Provisional sum Schedule for allowance

Light fittings

Supply light fittings including fitting specified in landscape works	Refer to Provisional sum Schedule for allowance

Accessory schedule

Type	Manufacturer	Catalogue or model no	Location
GPO	HPM	XL series white horizontal	All areas UNO
GPO	HPM	Architectural metal range 1 6 mm thick flat stainless steel white control gear	Kitchen Bath Ensuite 1 2 3+4
Light switches	HPM	XL series white vertical	All areas UNO

Type	Manufacturer	Catalogue or model no	Location
Light switches	HPM	Architectural metal range 1 6 mm thick flat stainless steel white control gear	Kitchen
Dimmers	HPM		All areas UNO
Telecommunications outlet telephony	HPM	XL series white horizontal	All areas UNO
Telecommunications outlet – data	HPM	XL series white horizontal	All areas UNO
Telecommunications outlet – cable	HPM	XL series white horizontal	All areas UNO
Exhaust fan	HPM Vent-Axia	R621/6L 150 diam inline fan ducted through to roof interconnected duct	Toilet 1 + 2 Bath Ensuite 1 2 3+4 Laundry
Towel rail	Hydrotherm	Series TR2 600 wide x 1080 high chrome plated hard wired (left rail bottom corner) Include supply+ install timer + thermostat controller	Bath Ensuite 1 2 3+4
Floor heating	Warmtech Heating systems Model UT300	Under tile 300W including timer switch + programmable thermostat control located in cupboard	Bath Ensuite 1 2 3+4
Convection heaters CH1	Skope	Airelec Elite Heater ELITH ETP15	Bed 2 3 + 4 x 1 off ea Lanai x 2 off
Convection heaters CH2	Skope	Airelec Elite Heater ELITH ETP 20	Guest bed Study + Sitting room
Ceiling fans	Hunter Pacific	Concept colour white incl remote on/off speed control	Study Guest Bed Bed 1 2 3 +4 Family Living Dining Lanai
Garage doors		Motorised and remote control	REFER GARAGE DOORS for details
Security	Existing system	Re-install existing and extend	REFER PROVISIONAL SUMS SCHEDULE for allowance to supply and install
Chilled filtered water	Zip HydroTap		REFER HYYDRAULICS for details

Luminaire schedule

Refer to Landscape drawings for fittings to landscape works

Code	Type	Manufacturer	Catalogue or model no	Location
DL1	Internal low voltage fixed down light x pair	TOVO Lighting 02 9939 1122	DownLight Albany AR111 Code 452 (350 x 180) 50W Halogen Finish Matt white	Where noted
DL2	Internal low voltage fixed down light - single	TOVO Lighting 02 9939 1122	DownLight Low Glare Code 762 (Square 100 x 100) 50W 55^0 beam spread GE Long Life globe Finish Matt white	Where noted
DL3	Internal low voltage fixed down light - single	TOVO Lighting 02 9939 1122	DownLight Low Glare Code 763 (Round 100 diam) 50W 55^0 beam spread GE	Where noted

Code	Type	Manufacturer	Catalogue or model no	Location
			Long Life globe Finish Matt white	
DL4	Recessed cupboard down light	By Kitchen joinery	Recessed 20W white	Kitchen
DL5	External low voltage fixed down light single	TOVO Lighting 02 9939 1122	Panorama Vaucluse Code 746 (Square 100x 100) 50W 55º beam spread GE Long Life globe Finish Stainless steel	Eaves soffit
CL1	Bulkhead fitting	iGuzzini – from ECC 02 9460 6600	Boss code 5342 2 x 18W compact fluorescent 426 mm diam opal glass	Where noted
WL1	Internal/ external wall fitting	TOVO Lighting 02 9939 1122	Panorama Long Reef Code 16 Finish stainless steel 316 12V Halogen MR16 Down 50W 25º lamp Up 20W frosted diffuser to top	Entry Family Hall 3 Stair 1
WL2	External wall fitting	TOVO Lighting 02 9939 1122	Bies Downlighter Code 1135 Finish cast aluminium Halogem MR16 50W	
WL3	Internal wall fitting	TOVO Lighting 02 9939 1122	Krest Slim Recessed uplighter Code 304 Stainless steel Halogen	Ensuite 2 + 3
FL1	Fluorescent batten	Concord	SlimDim T5 36W Warm tube	Light trough - Living/Dining Ensuite 1 2 3 + 4 Bath Bed 1
FL2	Fluorescent batten	Thorn	Arrowslim 1x 36 W batten incl Arrowslim wrap round opal diffuser	Garage
FL3	Fluorescent batten	Thorn	1x 36 W Dispersive reflector batten	Plant room Roof store Pool plant /Store Pump room
PL1	Pendant light point		Black HPM rose and 1 0m of black flex Fitting to be **supplied by owner** Installed by Builder	Living Dining Family

Appliance schedule

Item	*Location*	*Model*	*Details*
Built in oven	Kitchen	To be advised	Wall oven /gas
Cook top	Kitchen	To be advised	Bench gas / electric starter
Exhaust	Kitchen	To be advised	Ducted through roof
Dishwasher	Kitchen	To be advised	Under bench
Microwave	Kitchen	To be advised	

0903 POOL AND SPA

1 1 GENERAL

1 2 CROSS REFERENCES

Associated worksections

Associated worksections Conform to the following

-*Concrete* for reinforced concrete

-*Hydraulics* for plumbing and drainage

-*Electrical* for power supply

-*Finishes schedules* for finishes to Pool and surrounds

1 3 POOL + SPA CONSTRUCTION

General

Allow for specialist pool contractor to design and construct reinforced concrete pool including

- Design reinforced concrete shell and cantilevered concrete deck to north by a specialist structural engineer Provide structural certification for design
  Note concrete piers by Builder
  Note Concrete to all exposed surfaces vertical and horizontal Class 1 finish
- Supply and lay tiles to pool and spa interior
- Supply and install all pool and spa equipment as scheduled below and required for a complete installation
- Supply and install all pool hydraulics piping and electrical wiring cabling and conduits including spa operator buttons and switches
  Builder to provide water and power to Plant room location to confirmed with pool contractor
- Spa operator switches – allow to install with engraved stainless steel plate
- Supply a removable foam pool cover for the spa (required by BASIX)
- Supply handover kit Builder to fix Resuscitation Chart
- Supply pool lights installed by pool contractor s electrician
- Commission pool and spa
- Timber decking including stainless steel edge angle and RHS supply and installation by Builder
- Pool fence and glass balustrade by Builder
- Flashing to pool heater flue by Builder

2 SELECTIONS

2 1 SCHEDULES

Pool equipment	– Waterco Micron S750 Top Mount Sand Filter – 1 25 HP Speck filter pump – 2 hp spa jet pump – Hurlcon 1300 watt SX Air blower – RolaChem RC7 chemical controller Automatic ORP & PH with LCD – Hurlcon MX Series 400 Gas Heater (LPG) – Hurlcon Genus IV Pool and Spa Controller with 2 Valves and Actuators – JetVac Pool cleaner with separate pump or Hurlcon INFLOOR CLEAN SYSTEM – Four Aqustar underwater lights with stainless steel surrounds – Vacuum Head Telescopic Handle Hose Broom Leaf Rake 5 in 1 Test Kit and Resuscitation Chart
Pool construction	Include lump sum price for pool construction tiling including supply and installation all pool equipment and flue to pool heater through roof
Pool tiles Type G	Refer to Provisional sum schedule for tile supply allowance

0904 MISCELLANEOUS METAL +TIMBER WORK

1 1 CROSS REFERENCES

Associated worksections

Associated worksections Conform to the following

General Requirements for timber steel coatings and durability

- *Steel framing* for workmanship welding materials

Painting for painting of steel before fixing

2 EXECUTION

2 1 MATERIALS AND COMPONENTS

Finished sizes

Provide milled timbers with actual dimensions which are at least the required dimensions except for dimensions qualified by a term such as nominal or out of" to which industry standards for finished sizes apply

2 2 CONSTRUCTION GENERALLY

General

Construction Build components square and install plumb

Joints Provide materials in single lengths whenever possible If joints are necessary make them over supports

Fasteners and adhesives

General Provide fasteners adhesives or both to transmit the loads imposed and ensure the rigidity of the assembly Do not split discolour or otherwise damage finished item

External timber

Bush fire attack External timber selection for low and medium bush fire attack To BCA Table 3 7 4 1

Timber selection to comply with NSW Rural Fire Service development Control note 001

3 SELECTIONS

3 1 HANDRAIL HR 1

Location	1st floor Verandah
Material	Stainless steel grade 304 stanchions 75 x 10 100 x150 fixing plate pre drilled for c/s fixings
Rail	Stainless steel grade 304 50 diam welded to stanchion Welded end caps Radiused external corners
Stainless steel wires	Ronstan - Balustrade system 1 max wire length 8 m Stainless steel grade 316 Swage terminals tensioned with threaded terminal adjusters/ 3 mm wire 1 x 19 lay @ max 80 mm centres tension 1015N /6mm deflection max wire length 8 m incl bushes to stanchions
Fixings	c/sunk 304 stainless steel square drive screws

3 2 HANDRAIL HR 2

Location	1st floor Verandah
Material	Stainless steel grade 304 stanchions 75 x 10 100 x150 fixing plate pre drilled for c/s fixings
Rail	Stainless steel grade 304 50 diam welded to stanchion Welded end caps Radiused external corners
Fixings	C/sunk 304 stainless steel square drive screws

3 3 ENTRY FIXED TIMBER LOUVRED SCREEN

Location	Entry Roof light
Material	Stainless steel grade 304 frames 75 x 10 100 x150 fixing plate pre drilled for c/s fixings with fin plates 70 x 60 x 6 for timber louvres at 200mm cts
Timber	150 x 50 select grade Merbau hardwood rebated at fin plates and blocked at max 800 centres to prevent warping and twisting for clear oiled finish Allow to treat timber to prevent leeching of tannin
Fixings	C/sunk 304 stainless steel square drive screws

3 4 CHIMNEY HOOD

Location	Chimney
Material	Mild steel
Dimsnions	750 x 750 x 8mm plate 50 x 50 x 8 RSA at corners approx 500 high 130 x 8 bottom plate with 4 off 50 wide x approx 700 long straps with 75 return for build into chimney brickwork when extended Refer to drawings
Finish	Micaceous paint colour to be selected treat steel in accordance with paint requirements

~~3 5 PERGOLA 1 2 + 3~~

~~Location~~	~~Entry Terrace + Pool~~
~~Material~~	~~Structural steel column~~
~~Finish~~	~~Paint finish for exposed structural steel~~
~~Timber~~	~~150 x 50 select grade Merbau hardwood frames blocked at max 800 centres to prevent warping and twisting for clear oiled finish Allow to treat timber to prevent leeching of tannin~~
~~Fixings~~	~~C/sunk 304 stainless steel square drive screws~~

REFERENCED DOCUMENTS

AS/NZS 1080		Timber - Methods of test
AS/NZS 1080 1	1997	Moisture content
AS 1163	1991	Structural steel hollow sections
AS/NZS 1170		Structural design actions
AS/NZS 1170 1	2002	Permanent imposed and other actions
AS 1214	1983	Hot-dip galvanized coatings on threaded fasteners (ISO metric coarse thread series)
AS 1231	2000	Aluminium and aluminium alloys – Anodic oxidation coatings
AS 1288	2006	Glass in buildings – Selection and installation
AS 1324		Air filters for use in general ventilation and airconditioning
AS 1324 2	2003	Methods of test
AS 1366		*Rigid cellular plastics sheets for thermal insulation*
AS 1366 3	1992	Rigid cellular polystyrene – Moulded (RC/PS – M)
AS 1366 4	1989	Rigid cellular polystyrene – Extruded (RC/PS-E)
AS/NZS 1367	2007	Coaxial cable systems for the distribution of analogue television and sound signals in single and multiple unit installations
AS 1379	2007	Specification and supply of concrete
AS 1397	2001	Steel sheet and strip – Hot-dipped zinc-coated or aluminium/zinc-coated
AS/NZS 1546		On-site domestic wastewater treatment units
AS/NZS 1546 1	1998	Septic tanks
AS/NZS 1546 2	2001	Waterless composting toilets
AS/NZS 1546 3	2001	Aerated wastewater treatment units
AS/NZS 1547	2000	On-site domestic wastewater management
AS 1562		Design and installation of sheet roof and wall cladding
AS 1562 1	1992	Metal
AS 1562 3	2006	Plastic
AS/NZS 1571	1995	Copper – Seamless tubes for airconditioning and refrigeration
AS 1604		Specification for preservative treatment
AS 1604 1	2005	Sawn and round timber
AS/NZS 1604 2	2004	Reconstituted wood-based products
AS/NZS 1604 3	2004	Plywood
AS 1627	Various	Metal finishing - Preparation and pretreatment of surfaces
AS 1657	1992	Fixed platforms walkways stairways and ladders - Design construction and installation
AS 1668		The use of mechanical ventilation and air-conditioning in buildings
AS 1668 2	2002	Ventilation design for indoor air contaminant control
AS 1672		Limes and limestones
AS 1672 1	1997	Limes for building
AS/NZS 1677		Refrigerating systems
AS/NZS 1677 2	1998	Safety requirements for fixed applications
AS 1684		Residential timber-framed construction
AS 1684 3	2006	*Cyclonic areas*
AS 1684 4	2006	Simplified – Non cyclonic
AS 1720		Timber structures
AS 1720 1	1997	Design methods
AS 1789	2003	Electroplated zinc (electrogalvanized coatings on ferrous articles (batch process)
AS 1810	1995	Timber - Seasoned cypress pine - Milled products
AS/NZS 1859		Reconstituted wood-based panels – Specifications
AS/NZS 1859 1	2004	Particleboard
AS/NZS 1859 2	2004	Dry processed fibreboard
AS/NZS 1859 3	2005	Decorative overlaid wood panels
AS/NZS 1859 4	2004	Wet-processed fibreboard
AS/NZS 1860		Particleboard flooring
AS/NZS 1860 1	2002	Specifications
AS 1860 2	2006	Installation
AS 1926		Swimming pool safety

AS 1926 1	2007	Fencing for swimming pools
AS 1926 2	2007	Location of fencing for private swimming pools
AS 2047	1999	Windows in buildings – Selection and installation
AS 2049	2002	Roof tiles
AS 2050	2002	Installation of roofing tiles
AS 2070	1999	Plastics materials for food contact use
AS 2082	2007	Timber - Hardwood Visually stress-graded for structural purposes
AS/NZS 2098		Methods of test for veneer and plywood
AS/NZS 2098 11	2005	Determination of formaldehyde emissions for plywood
AS 2159	1995	Piling – Design and installation
AS/NZS 2179		Specifications for rainwater goods accessories and fasteners
AS/NZS 2179 1	1994	Metal shape or sheet rainwater goods and metal accessories and fasteners
AS/NZS 2201		Intruder alarm systems
AS/NZS 2201 1	2007	Client s premises Design installation commissioning and maintenance
AS/NZS 2208	1996	Safety glazing materials in buildings
AS/NZS 2269	2004	Plywood – Structural
AS/NZS 2270	2006	Plywood and blockboard for interior use
AS/NZS 2271	2004	Plywood and blockboard for exterior use
AS/NZS 2311	2000	Guide to the painting of buildings
AS/NZS 2312	2002	Guide to the protection of structural steel against atmospheric corrosion by the use of protective coatings
AS 2327		Composite structures
AS 2327 1	2003	Simply supported beams
AS 2334	1980	Steel nails – Metric series
AS 2358	1990	Adhesives – For fixing ceramic tiles
AS 2423	2002	Coated steel wire fencing products for terrestrial aquatic and general use
AS 2427	2004	Smoke/heat release vents
AS/NZS 2455		Textile floor coverings – Installation practice
AS/NZS 2455 1	2007	General
AS/NZS 2588	1998	Gypsum plasterboard
AS/NZS 2589	2007	Gypsum linings – Application and finishing
AS 2601	2001	The demolition of structures
AS 2663		Textiles – Fabrics for window furnishings
AS 2663 1	1997	Uncoated fabrics
AS 2663 2	1999	Coated curtain fabrics
AS 2665	2001	Smoke/heat venting systems – Design installation and commissioning
AS/NZS 2699		Built in components for masonry construction
AS/NZS 2699 1	2000	Wall ties
AS/NZS 2699 3	2002	Lintels and shelf angles (durability requirements)
AS/NZS 2712	2002	Solar and heat pump water heaters - Design and construction
AS/NZS 2728	2007	Prefinished/prepainted sheet metal products for interior/exterior building applications – Performance requirements
AS 2796		Timber – Hardwood – Sawn and milled products
AS 2796 1	1999	Product specification
AS 2796 2	2006	Grade description
AS 2796 3	1999	Timber for furniture componenets
AS 2858	2004	Timber - Softwood - Visually graded for structural purposes
AS 2870	1996	Residential slabs and footings – Construction
AS/NZS 2904	1995	Damp-proof courses and flashings
AS/NZS 2908		Cellulose-cement products
AS/NZS 2908 2	2000	Flat sheets
AS/NZS 2918	2001	Domestic solid fuel burning appliances – Installation
AS/NZS 2924		High pressure decorative laminates – Sheets made from thermosetting resins
AS/NZS 2924 1	1998	Classification and specifications
AS/NZS 3000	2007	Wiring rules
AS/NZS 3008		Electrical installations – Selection of cables

AS/NZS 3008 1 1	1998	Cables for alternating voltages up to and including 0 6/1 kV – Typical Australian installation conditions
AS/NZS 3017	2007	Electrical installations – Testing and inspection guidelines
AS/NZS 3080	2003	Telecommunications installations Generic cabling for commercial premises (ISO/IEC 11801 2002 MOD)
AS 3439		Low-voltage switchgear and controlgear
AS 3439 3	2002	Particular requirements for low-voltage switchgear and controlgear assemblies intended to be installed in places where unskilled persons have access for their use – Distribution
AS/NZS 3500		Plumbing and Drainage
AS/NZS 3500 1	2003	Water services
AS/NZS 3500 2	2003	Sanitary plumbing and drainage
AS/NZS 3500 3	2003	Stormwater drainage
AS/NZS 3500 4	2003	Heated water services
AS/NZS 3500 5	2000	Domestic installations
AS 3566		Self-drilling screws for the building and construction industries
AS 3566 2	2002	*Corrosion resistance requirements*
AS 3600	2001	Concrete structures
AS 3610	1995	Formwork for concrete
AS 3660		Termite management
AS 3660 1	2000	New buildings
AS/NZS 3666		Air-handling and water systems of buildings – Microbial control
AS/NZS 3666 1	2002	Design installation and commissioning
AS 3700	2001	Masonry structures
AS 3705	2003	Geotextiles - Identification marking and general data
AS 3715	2002	Metal finishing – Thermoset powder coatings for architectural applications of aluminium and aluminium alloys
AS 3727	1993	Guide to residential pavements
AS 3730		Guide to the properties of paints for buildings
AS 3730 1	2006	Latex - Interior - Flat
AS 3730 2	2006	Latex - Interior - Semi-gloss
AS 3730 3	2006	Latex - Interior - Low-gloss
AS 3730 6	2006	*Solvent-borne - Exterior - Full gloss enamel*
AS 3730 8	2006	Latex - Exterior - Low-gloss
AS 3730 9	2006	Latex - Exterior - Semi-gloss
AS 3730 10	2006	Latex - Exterior – Gloss
AS 3730 12	2006	Latex - Interior - Gloss
AS 3730 16	2006	Latex - Timber finish - Exterior
AS 3730 27	2006	Floor varnish - Two pack - Isocyanate cured
AS 3730 28	2006	Wood stain - Solvent-borne - Exterior
AS 3730 29	2006	Solvent-borne - Exterior/interior - Paving paint
AS 3740	2004	Waterproofing of wet areas within residential buildings
AS 3743	2003	Potting mixes
AS 3799	1998	Liquid membrane-forming curing compounds for concrete
AS 3818		Timber - Heavy structural products - Visually graded
AS 3818 2	2004	Railway track timbers
AS/NZS 3823		Performance of electrical appliances –Airconditioners and heat pumps
AS/NZS 3823 1 1	1998	Non-ducted airconditioners and heat pumps – Testing and rating for *performance*
AS/NZS 3823 1 2	2001	Test methods – Ducted airconditioners and air-to-air heat pumps – Testing and rating for performance
AS/NZS 3823 2	2005	Energy labelling and minimum energy performance standard (MEPS) requirements
AS 3958		Ceramic tiles
AS 3958 1	2007	Guide to the installation of ceramic tiles
AS 3958 2	1992	Guide to the selection of a ceramic tiling system
AS 3959	1999	Construction of buildings in bushfire prone areas
AS 3972	1997	*Portland and blended cements*
AS 3999	1992	Thermal insulation of dwellings – Bulk insulation – Installation requirements
AS 4100	1998	Steel structures
AS/NZS 4200		Pliable building materials and underlays

AS/NZS 4200 1	1994	Materials
AS/NZS 4200 2	1994	Installation requirements
AS 4254	2002	Ductwork for air-handling systems in buildings
AS 4256		Plastic roof and wall cladding materials
AS 4256 2	2006	Unplasticized polyvinyl chloride (uPVC) building sheets
AS 4256 3	2006	Glass fibre reinforced polyester (GRP)
AS 4256 4	2006	Unplasticized polyvinyl chloride (uPVC) wall cladding boards
AS 4256 5	2006	Polycarbonate
AS/NZS 4266		Reconstituted wood-based panels - Methods of test
AS/NZS 4266 16		Formaldehyde emission - Dessicator method
AS 4285	2007	Skylights
AS 4288	2003	Soft underlays for textile floor coverings
AS 4373	2007	Pruning of amenity trees
AS/NZS 4386		Domestic kitchen assemblies
AS/NZS 4386 1	1996	Kitchen units
AS 4419	2003	Soils for landscaping and garden use
AS 4440	2004	Installation of nailplated timber trusses
AS/NZS 4455	1997	Masonry units and segmental pavers
AS 4454	2003	Composts soil conditioners and mulches
AS/NZS 4505	1998	Domestic garage doors
AS 4552	2005	Gas fired water heaters for hot water supply and/or central heating
AS/NZS 4586	2004	Slip resistance classification of new pedestrian surface materials
AS/NZS 4600	2005	Cold-formed steel structures
AS/NZS 4680	2006	Hot-dip galvanized (zinc) coatings on fabricated ferrous articles
AS/NZS 4692		Electric water heaters
AS/NZS 4692 1	2005	Energy consumption performance and general requirements
AS/NZS 4692 2	2005	Minimum Energy Performance Standard (MEPS) requirements and energy labelling
AS 4766	2006	Polyethylene storage tanks for water and chemicals
AS/NZS 4782		Double-capped fluorescent lamps – performance specifications
AS/NZS 4782 2	2004	Minimum Energy Performance Standard (MEPS)
AS/NZS 4783		Performance of electrical lighting equipment – Ballasts for fluorescent lamps
AS/NZS 4783 2	2002	Energy labelling and minimum energy performance standards requirements
AS 4785	Various	Timber - Softwood - Sawn and milled products
AS 4785 1	2002	Product specification
AS 4785 3	2002	Timber for furniture components
AS 4786		Timber flooring
AS 4786 2	2005	Sanding and finishing
AS 4809	2003	Copper pipe and fittings – Installation and commissioning
AS/NZS 4858	2004	Wet area membranes
AS/NZS 4859		Materials for the thermal insulation of buildings
AS/NZS 4859 1	2002	General criteria and technical provisions
AS 5039	2003	Security screen doors and security window grilles
AS 5040	2003	Installation of security screen doors and window grilles
AS 5067	2003	Timber - Non-structural glued laminated - Performance and production requirements
AS 5601	2004	Gas Installation Code
AS 5604	2005	Timber – Natural durability ratings
AS 6002	1999	Domestic electric meter enclosures
AS/NZS ISO 9001	2000	Quality management Systems
AS/NZS ISO/IEC 15018	2005	Information technology - Generic cabling for homes
AS/NZS 60598		Luminaires
AS/NZS 60598 1	2003	General requirements and tests
AS/ACIF S009	2006	Installation Requirements for Customer Cabling (Wiring Rules)
SAA HB 29	2007	Communications Cabling Manual Module 2 Communications Cabling Handbook
SAA HB 40		The Australian Refrigeration and Air Conditioning Code of Good Practice

SAA HB 40 2	2001	Reduction of Emissions of Fluorocarbons in Residential Airconditioning Applications
SAA HB 230	2006	Rainwater tank design and installation handbook
SAA HB 252	2007	Communications Cabling Manual Module 3 Residential communications cabling handbook
SAA HB 301	2001	Electrical installations - designing to the Wiring Rules
ACADS-BSG Camel		Manual for calculating cooling and heating loads – electronic method
AIRAH DA09	1998	Load estimation and psychrometrics
ASHRAE	2005	ASHRAE fundamentals handbook
ASTM C534	2007	Standard Specification for Preformed Flexible Elastomeric Cellular Thermal Insulation in Sheet and Tubular Form
BCA 3 1 3 2(b)		Acceptable construction – Site preparation – Termite risk management – Installation of termite barriers
BCA	3 3 1 6	Acceptable construction – Masonry – Unreinforced masonry – Mortar mixes
BCA Figure 3 3 3 1		Typical brick ties spacings in cavity and veneer construction
BCA Table 3 3 3 1		Corrosion protection for wall ties
BCA 3 3 3 2		Acceptable construction – Masonry – Masonry accessories – Wall ties
BCA Figure 3 3 3 5		Lintels supporting roofs and masonry walls
BCA 3 4 2 2		Acceptable construction – Framing – Steel framing – General
BCA 3 4 4 4		Acceptable construction - Framing - Structural steel members - Corrosion protection
BCA Table 3 7 4 1		Acceptable solutions - Fire safety - Bushfire areas - Construction for medium high and extreme categories of bushfire attack
BCA 3 8 1 2		Acceptable construction - Health and amenity - Wet areas
BCA 3 9 2		Acceptable construction – Safe movement and access – Balustrades
BCA B1 4(i)		*Structure - Structural provisions - Determination of structural resistance* of materials and forms of construction - Termite risk management
Carrier		Manual for calculating cooling and heating loads – manual method
Carrier E20		*Manual for calculating cooling and heating loads – electronic method*
CBPI Techniques 05	1992	Open fireplace design and construction
CBPI TN 21A	1985	Design of Free-Standing Walls
NASH Standard	2005	Residential and low-rise steel framing Part 1 Design criteria
NOHSC 2002	2005	Asbestos Code of Practice for the safe removal of Asbestos [NOHSC 2002 (1988)] 2nd edition
Trane Trace		Software for calculating cooling and heating loads

SCHEDULES

1 FINISHES SCHEDULE LEGEND
2 EXTERNAL FINISHES SCHEDULE
3 INTERNAL FINISHES SCHEDULE
2 DOOR SCHEDULE
3 WINDOW + GLAZED DOOR SCHEDULE
4 INTERNAL WINDOW SCHEDULE
5 EXTERNAL ALUMINIUM LOUVRE SCHEDULE
6 PROVISIONAL SUMS SCHEDULE

1 FINISHES SCHEDULE - LEGEND

AR1 ARCHITRAVETIMBER
AR2 ARCHITRRAVE SHADOW LINE P50
C CUPBOARD
CP CARPET (BY OTHERS)
CR CEMENT RENDER
CRO CEMENT RENDER OXIDE
CRP CEMENT RENDER PLASTER SET
CONC CONCRETE STEEL TROWL FINISH
CT COOKTOP
C1 CORNICE SQUARE SET
C2 CORNICE SHADOW LINE P50
C3 CORNICE TIMBER
C4 20x20 ALUMINIUM ANGLE
CPA CEILING ACCESS PANEL
D DOOR (D1)
EX EXISTING
FC FIBRE CEMENT
FCC FIBRE CEMENT CLADDING
FFB FAIR FACE BLOCK/BRICK
FG FIXED GLASS
G EAVES GUTTER
GRANO CONCRETE TOPPING
HR HANDRAIL (HR1)
IW INTERIOR WINDOW (IW1)
INS INSULATION (R3)
L LOUVRES (L1)
MR1 METAL ROOFING CUSTOM ORB
MR2 METAL ROOFING SPANDEK
~~MRZ ZINC ROOFING FASCIA + CLADDING~~
MF **COLORBOND METAL FASCIA**
O OVEN
P PAINT
PB PLASTERBOARD PB10 +PB13
PT STONE TILE STAIR TREAD +RISERS
STF STONE ~~FACING~~ COPPING TILE
SB STEEL BEAM
SC STEEL COLUMN
SF SHEET FLOORING
SK1 SKIRTING TIMBER
SKT SKIRTING TILE
T TIMBER
TB TIMBER BEAM
TP TIMBER POST
TF TILES FLOOR
TW TILES WALL
TSB TILES SPLASHBACK
T+G T+G FLOORING
W WINDOW (W1)
WC WINDOW CASEMENT
WDH WINDOW DOUBLE HUNG
WD WINDOW DOOR (sliding hinged + bifold)
WR WINDOW ROOF (WR1)

2 EXTERNAL FINISHES

Area/Room	Surface					
	Floor/paving	Wall	Ceiling/ eaves soffit	Roof/ fascia/gutter	Windows/doors	Remarks
RESIDENCE						
North elevation Ground	PT to Terrace and Verandah North	CR/FCC/P	FC/P	MR1/~~MRZ~~ MR2/ MF T/P G	W/D T/P	SC+TP/P ~~MRZ~~ MR2 to roof lights + Living/Dining + Terrace Verandah roof FCC to T lintel and under selected windows ~~STF~~ **CRO** to terrace walls STF to terrace wall copping
South elevation Ground	PT	CR/FCC/P	FC/P	MR1/~~MRZ~~ MR2 T/P G	W/D-T/P	SC+TP/P ~~MRZ~~ MR2 to roof lights Fixed timber + steel screen to Entry roof FCC to T lintel and under selected windows
East elevation Ground	PT	CR/P	FC/P	MR1/~~MRZ~~ MR2/ MF T/P G	W/D T/P	TP/P ~~MRZ~~ MR2 to roof lights+ Living/Dining + Terrace Verandah roof FCC to T lintel and under selected windows
West elevation Ground	PT	CR/FCC/P	FC/P	MR1/~~MRZ~~ MR2/ MF T/P G	W/D-T/P	SC+TP/P ~~MRZ~~ MR2 to roof lights+ Living/Dining + Terrace Verandah roof FCC to T lintel and under selected windows
North elevation First		WB	FC/P	MR2/~~MRZ~~ MR2 T/P G	W/D T/P	~~MRZ~~ MR2 to pitched roof
South elevation First		WB	FC/P	MR2/~~MRZ~~ MR2 T/P G	W/D-T/P	~~MRZ~~ MR2 to pitched roof Louvres to plant room
East elevation First		WB	FC/P	MR2/~~MRZ~~ MR2 T/P G	W/D-T/P	~~MRZ~~ MR2 to pitched roof Louvres to plant room
West elevation First		WB	FC/P	MR2/~~MRZ~~ MR2 T/P G	W/D-T/P	~~MRZ~~ MR2 to pitched roof Adjustable aluminium louvres to windows
Terrace	PT Terrace and Terrace steps 1 + 2	~~STF~~ **CRO** to garden wall STF to garden wall copping	FC/P			New SC/P SW3 to drain
Ex Verandah North	PT	~~STF~~ **CRO** to garden wall STF to garden wall copping	FC/P			Ex TP/P New SC/P
Ex Verandah South	PT	~~STF~~ **CRO** to garden wall STF to garden	FC/P			Ex TP/P New SC/P

2 EXTERNAL FINISHES

Area/Room	Surface					
	Floor/paving	**Wall**	**Ceiling/ eaves soffit**	**Roof/ fascia/gutter**	**Windows/doors**	**Remarks**
		wall copping				SW2 to drain
Pergola 2	Paving by landscape architect	~~STF~~ **CRO** to garden wall STF to garden wall copping				~~Structure SC/P~~ T/P NOTE pergola structure deleted
Sun screen						Structure SB/P T/P
Pond	~~TF mosaic tiles Type G~~ landscaping	~~STF~~ **CRO** to garden wall STF to garden wall copping				~~Pump~~ landscaping by landscape architect
LANAI + POOL						
North elevation Ground	TD	CR/P	FC/P	MR1 ~~SB~~ T/P G	W/D T/P	SC+TP/P HR5 + 5A Stair 3
South elevation Ground	TD	CR/P	FC/P	MR1 ~~SB~~ T/P G	W/D-T/P	SC+TP/P HR4 (pool fence)
East elevation Ground	TD		FC/P	MR1 ~~SB~~ T/P G	W/D-T/P	SC+TP/P HR4 + gate (pool fence) STF to retaining wall
West elevation Ground	TD	CR/P	FC/P	MR1 ~~SB~~ T/P G	W/D-T/P	SC+TP/P HR5
North elevation Basement	CP	CR/P CONC	CONC		W/D-AL	CONC to exposed piers soffit + external face pool wall Class ~~1~~ 2finish Stair 3
South elevation Basement						
East elevation Basement		CR/P	CONC			CONC to soffit Class 1 finish
West elevation Basement		CR/P	CONC			CONC exposed to view to soffit Class ~~1~~ 2finish Make good to loose laid stone wall at Equestrian arena
POOL						
Pool	TF Type G	TF Type G				TD between spa + pool Spa cover
North elevation Ground	TD	HR5				CONC pool edge exposed to view Class ~~1~~ 2finish

2 EXTERNAL FINISHES

Area/Room	Surface					
	Floor/paving	Wall	Ceiling/ eaves soffit	Roof/ fascia/gutter	Windows/doors	Remarks
South elevation Ground	TD	CONC/HR4				~~Steel frame pergola timber infill~~ Drain for extent of CONC wall CONC exposed to view Class 1 2finish
East elevation Ground	TD /CONC	CONC ~~STF~~ **CRO** retaining wall STF to retaining wall copping				CONC vertical + pool edge exposed to view Class 1 2finish
West elevation Ground	TD /CONC	HR5			Gate in HR4	CONC vertical + pool edge exposed to view Class 1 finish STF to retaining wall
Pergola 3						~~Structure SC/P~~ T/P NOTE pergola structure deleted External shower to 1 x SC Refer to Hydraulics SUPPORT to be confirmed
GARAGE						
North elevation Ground		STF/FCC/P	FC/P	MR1 ~~SB~~ T/P G	W-T/P/AL	STF below sill level to wall
South elevation Ground	CP	FCC/P	FC/P	MR1 ~~SB~~ T/P G	D	SC /P Garage doors FCC garage door lintel and horizontal reveal
East elevation Ground		FCC/P	FC/P	MR1 ~~SB~~ T/P G	D/L	STF returns at ends
West elevation Ground	~~TD~~ concrete	FCC/P	FC/P	MR1 ~~SB~~ T/P G	W/D-T/P	STF returns at ends TD at door
Garage walkway	~~TD~~ concrete	SC/P	FCP	~~SB~~ T/P		~~TD on timber framing~~ concrete paving ~~support off~~ SC Glass roof at garage door Timber screens by landscape architect
VISITOR ENTRY						
Car park	~~Washed aggregate~~ Boral Hydrapave pavers colour to be selected	~~STF~~ **CRO** to retaining wall STF to retaining wall copping				~~STF~~ **CRO** below sill level to wall

2 EXTERNAL FINISHES

Area/Room	Surface					
	Floor/paving	Wall	Ceiling/ eaves soffit	Roof/ fascia/gutter	Windows/doors	Remarks
Entry steps 1 2 + 3	ST	~~STF~~ **CRO** to retaining walls STF to garden wall copping				
Pergola 1						~~Structure SC/P~~ T/P NOTE pergola structure deleted

3 INTERNAL FINISHES

Room	Surface					Notes
	Floor	Wall	Ceiling	Cornice	Skirting	
RESIDENCE GRD FLOOR						
Entry	PT	PB/P	PB/P	C2	SK1	Roof light shaft Pb/p
Hall 1	T+G	PB/P CR/P	PB/P	C2	SK1	CR to chimney Sliding door track D15concealed in ceiling
Stair 1						Timber treads steel stringer HR3 timber 50diam rail + HR3
Hall 2	T+G	PB/P	PB/P	C2	SK1	Cupboard joinery
Toilet 1	TF	PB/P	PB/P	C2	SKT	WC pan inwall cistern Wall basin + Mirror
Study	GRANO/CP	PB/P	PB/P	C2	SK1	Cupboard joinery
Guest bed	GRANO/CP	PB/P	PB/P	C2	SK1	Wardrobe joinery
Ensuite 1	TF	TW	PB/P	C1	TW	WC pan in-joinery cistern Wall basin marble shelf Mirror faced joinery with concealed light frameless glass shower screen North wall - Partition wall 3
Electrical cupboard	EX CONC	PB/P	PB/P	C3	SK1	
Sitting	T+G	PB/P	PB/P	C2	SK1	South wall Partition wall 3 Sliding door track D12 concealed in ceiling
Living/Dining	T+G	PB/P CR/P	PB/P	C2	SK1	Cr/p to chimney breast Ex timber shelf Concealed lighting to clear storey glazing at north elevation Sliding door track D14 concealed in bulkhead IW3 over
Family	T+G	PB/P	PB/P	C2	SK1	Roof light shaft PB/P East wall - Partition wall 4 Family joinery
Kitchen	T+G	PB/P	PB/P	C2	SK1	Roof light shaft PB/P East wall - Partition wall 4 Kitchen joinery
Bed 2	GRANO/CP	PB/P	PB/P	C2	SK1	Wardrobe joinery west wall - Partition wall 4

3 INTERNAL FINISHES

Room	Surface					Notes
	Floor	Wall	Ceiling	Cornice	Skirting	
Ensuite 2	TF	TW	PB/P	C1	TW	Roof light shaft PB/P WC pan in joinery cistern Wall basin marble shelf Mirror faced joinery with concealed light frameless glass shower screen
Bed 3	GRANO/CP	PB/P	PB/P	C2	SK1	Wardrobe joinery
Ensuite 3	TF	TW	PB/P	C1	TW	Roof light shaft PB/P WC pan in-joinery cistern Wall basin marble shelf Mirror faced joinery with concealed light frameless glass shower screen
Bed 4	GRANO/CP	PB/P	PB/P	C2	SK1	Wardrobe joinery west wall - Partition wall 4
Bath	TF	TW	PB/P	C1	TW	Roof light shaft PB/P WC pan in-joinery cistern Wall basin marble shelf Mirror faced joinery with concealed light frameless glass shower screen 1800 bath
Laundry	TF	PB/P TSB	PB/P	C1	TF	Cupboard joinery + bench insert laundry tub
Hall 3	T+G	PB/P	PB/P	C2	SK1	Roof light shaft + bulkhead PB/P Cupboard joinery
RESIDENCE FIRST FLOOR						
Hall 4	T+G	PB/P	PB/P	C2	SK1	HR3A timber 50diam rail
Bed 1	CP	PB/P	PB/P	C2	~~SK1~~ SK2	Pelmet lighting @ ceiling + 2000 high wall Desk joinery
Walk in robe	CP	PB/P	PB/P	C2	~~SK1~~ SK2	Pelmet lighting @ ceiling Wardrobe joinery
Ensuite	TF	TW	PB/P	C1	TW	Pelmet lighting @ ceiling WC pan in-joinery cistern Wall basin marble shelf Mirror faced joinery with concealed light frameless glass shower screen 1800 bath
Verandah	TD on timber framing over membrane roof	WB	FC/P			Handrails HR1+ HR2
Roof Store	SF	PB/P	PB/P	C1	SK1	Stair 2 Enzie roof access ladder

3 INTERNAL FINISHES

Room	Surface					Notes
	Floor	Wall	Ceiling	Cornice	Skirting	
LANAI						
Lanai	T+G	CR/P	PB/P	C2		BBQ + splashback
Toilet 2	TF	TW/CR/P	PB/P	C1	TW/SKT	WC pan + cistern Wall basin + Mirror frameless glass shower screen
Store	T+G	CR/P	PB/P	C2	SK1	
Viewing area	TD	CR/P	FC/P			Handrail HR5
POOL PLANT/ STORE						
Pool Plant/Store	CONC/P	FFB/P	CONC	-		Rokite -Clear concrete finish to floor
GARAGE						
Garage	CONC/P	PB/P SC/P	PB/P	C3	SK1	Rokite -Clear concrete finish to floor
Walkway	TD	SC/P	FC/P	C3		
Pump room	CONC/P	FFB	CONC	-		Rokite -Clear concrete finish to floor

4 DOOR SCHEDULE

Door	Location	Doorset				Architrave	Hardware					Notes
		Door panel type	Door panel size W x nom H	Glass	Frame		Hinge	Lockset/ latchset	Handles/ Pull	Bolt	Door stop /catch	
D01/W01	Entry	DP6	Equal panels x nom 2100 high		window	window	H3	Lockset	Lever/ DH1		DS	External door Stone threshold brass weather bar Raven RP99 recessed draft and weather seal
D02	Toilet 1	DP5	720 x 2700		DF1	AR1	H1	Privacy lockset	Lever		DS	
D03	Cupboard Hall 2	DP5	panel to suit x 2700		DF1	AR2	H1	CC	DH2			
D04	Study	DP5	820x 2700		DF1	AR1	H1	Lockset	Lever		DS	
D05/W04	Study	DP1x pair	window	Clear	window	window	H2/H5	Lockset	Lever	FB	DC	External door Stone threshold brass weather bar Raven RP99 recessed draft and weather seal
D06	Guest bed	DP5	820 x 2700		DF1	AR1	H1	Lockset	Lever		DS	
D07	Wardrobe Guest bed	DP5	panel to suit x 2700		DF1	AR2	Sliding		RDH1			
D08/W06	Guest bed	DP1 x pair		Clear	window	window	H5	Lockset	Lever	FB	DC	External door Stone threshold brass weather bar Raven RP99 recessed draft and weather seal
D09	Ensuite 1	DP5	720 x 2700	-	DF2	AR1	H2	Privacy lockset	Lever			
D10	Electrical cup b	DP6	820 x 2400		window	window	H2	Lockset	Lever			External timber door frame

4 DOOR SCHEDULE

Door	Location	Doorset				Architrave	Hardware					Notes
		Door panel type	Door panel size W x nom H	Glass	Frame		Hinge	Lockset/ latchset	Handles/ Pull	Bolt	Door stop /catch	
												Raven RP26 draft and weather seal at sill
D11/W08	Sitting room	DP1 x pair		Clear	window	window	H2/H5	Lockset	Lever	FB	DC	External door Stone threshold brass weather bar Raven RP99 recessed draft and weather seal
D12	Sitting room	DP5	2 x panel to suit x 2700		DF2	AR2	sliding		RDH1/RDH2			Henderson / Centor brush concealed in ceiling
D13/W11	Living/ Dining	DP2	window	Clear	window	window	sliding	Lockset	Lever	FB		External door Stone threshold recessed track Raven draft and weather seals
D14/W3	Living/ Dining	DP5	2 x panel to suit x 2700		DF2	AR2	sliding		RDH1/RDH2			Henderson / Centor brush concealed in ceiling
D15	Entry	DP5	1 x panel to suit x 2700		DF2	AR2	sliding		RDH1/RDH2			Henderson / Centor brush concealed in ceiling
D16/W16	Family	DP2	window	Clear	window	window	sliding	Lockset	Lever	FB		External sliding door Stone threshold recessed track Raven draft and weather seals
D17	Hall 3	DP5	820 x 2700		DF1	AR1	H1	Passage lock	Lever			
D18/W28	Kitchen	DP3	window	Clear	window	window	bifold	Lockset	Lever	FB		External bifold door Stone threshold recessed track Raven draft and weather seals
D19	Bed 2	DP5	820 x 2700		DF1	AR1	H1	Passage lock	Lever			

4 DOOR SCHEDULE

Door	Location	Doorset				Architrave	Hardware					Notes
		Door panel type	Door panel size W x nom H	Glass	Frame		Hinge	Lockset/ latchset	Handles/ Pull	Bolt	Door stop /catch	
D20	Wardrobe Bed 2	DP5	panel to suit x 2700		DF1	AR2/AR1	Sliding		RDH1			
D21	Ensuite 2	DP5	720 x 2700	-	DF2	AR1	H2	Privacy lockset	Lever			
D22/W18	Bed 2	DP1	window	Clear	window	window	H5	Lockset	Lever	FB	DC	External door Stone threshold brass weather bar Raven RP99 recessed draft and weather seal
D23	Bed 4	DP5	820 x 2700		DF1	AR1	H1	Passage lock	Lever			
D24	Wardrobe Bed 4	DP5	panel to suit x 2700		DF1	AR2/AR1	Sliding		RDH1			
D25	Cupboard Hall 3	DP5	panel to suit x 2700		DF1	AR1/AR2	H1	CC	DH2			
D26	Bath	DP5	720 x 2700	-	DF2	AR1	H2	Privacy lockset	Lever			
D27	Cupboard Hall 3	DP5	panel to suit x 2700		DF1	AR2/AR1	H1	CC	DH2			
D28	Bed 3	DP5	820 x 2700		DF1	AR1	H1	Passage lock	Lever			
D29	Ensuite 3	DP5	720 x 2700	-	DF2	AR1	H2	Privacy lockset	Lever			
D30	Wardrobe Bed 3	DP5	panel to suit x 2700		DF1	AR2/AR1	Sliding		RDH1			

4 DOOR SCHEDULE

Door	Location	Doorset				Architrave	Hardware					Notes
		Door panel type	Door panel size W x nom H	Glass	Frame		Hinge	Lockset/ latchset	Handles/ Pull	Bolt	Door stop /catch	
D31/W21	Bed 3	DP1	window	Clear	window	window	H5	Lockset	Lever	FB	DC	External door Stone threshold brass weather bar Raven RP99 recessed draft and weather seal
D32/W23	Hall 3	DP1	window	Clear	window	window	H2	Lockset	Lever		DC	External door Stone threshold brass weather bar Raven RP99 recessed draft and weather seal
D33	Laundry	DP5	820 x 2700		DF1	AR1	H1	Passage lock	Lever			
D34	Cupboard Laundry	DP5	4 x panel to suit x 2700		DF1	AR2	H1	Cupb'd catch	DH2			
D35/W41	Lanai	DP3	window	Clear	window	window	bifold	Lockset	Lever	FB		External bifold door Stone threshold recessed track Raven draft and weather seal
D36	Lanai Hall 4	DP5	820 x 2700		DF1	AR1/AR2	H1	Lockset	Lever			
D37	Lanai Toilet 2	DP5	720 x 2700	-	DF2	AR1	H2	Privacy lockset	Lever			
D38/W42	Lanai Hall 4	DP1	window	Clear	window	window	H2	Lockset	Lever		DC	External door Decking timber threshold brass weather bar Raven RP99 recessed draft and weather seal
D39	Lanai Store	DP5	820 x 2700		DF1	AR1	H1	Passage lock	Lever			

4 DOOR SCHEDULE

Door	Location	Doorset				Architrave	Hardware					Notes
		Door panel type	Door panel size W x nom H	Glass	Frame		Hinge	Lockset/ latchset	Handles/ Pull	Bolt	Door stop /catch	
D40/W44	Lanai	DP3	window	Clear	window	window	bifold	Lockset	Lever	FB		External bifold door Decking timber threshold recessed track Raven draft and weather seal
D41/W45	Lanai	DP3	window	Clear	window	window	bifold	Lockset	Lever	FB		External bifold door Decking timber threshold recessed track Raven draft and weather seal
D42	Pool Plant/ Store	DP5	1 x pair 820 x 2200		Window aluminium	window	H6	Dead latch	DH2	FB		Aluminium fixed louvred door/ s/steel mesh
D43/W48	Garage	DP6	820 x 2400		Window	Window/ AR1	H6	Lockset	Lever			
D44	Garage	Single Garage door	X 2700		Steel column							Remote control
D45	Garage	Double Garage door			Steel column							Remote control
D46	Garage	Single Garage door			Steel column							Remote control
D47	Pump room	DP5	820 x 2200	-	Window aluminium	window	H6	Dead latch	DH2			Aluminium fixed louvred door/ s/steel mesh
D48	Roof store	DP5	820 x height to suit		DF1	AR1	H1	Roller catch	DH2			
D49	Roof store	DP5	820 x height to suit		DF1	AR1	H1	Roller catch	D Handle			

4 DOOR SCHEDULE

Door	Location	Doorset				Architrave	Hardware					Notes
		Door panel type	Door panel size W x nom H	Glass	Frame		Hinge	Lockset/ latchset	Handles/ Pull	Bolt	Door stop /catch	
D50/W31	Stair 1 / Verandah	DP1	window	Clear	window	window	H5	Lockset	Lever	FB	DC	External door HW timber threshold brass weather bar Raven RP99 recessed draft and weather seal
D51	Bed 1	DP5	820x 2700		DF1	AR1	H1	Lockset	Lever		DS	
D52	Ensuite 4	DP5	720 x 2700	-	DF2	AR1	H2	Privacy lockset	Lever			
D53	Wardrobe Bed 1	DP5	panel to suit x 2700		DF1	AR2/AR1	Sliding		RDH1			
D54	Wardrobe Bed 1	DP5	panel to suit x 2700		DF1	AR2/AR1	Sliding		RDH1			
D55/W37	Bed 1	DP3	window	Clear	window	window	bifold	Lockset	Lever	FB		External bifold door HW timber threshold recessed track Raven draft and weather seals
D56/W38	Bed 1	DP2	window	Clear	window	window	sliding	Lockset	Lever	FB		External sliding door HW timber threshold recessed track Raven draft and weather seals
D57/L1	Roof plant	DP5	820 x 2200	-	Window aluminium	window	H6	Dead latch	DH2			Aluminium fixed louvred door/ s/steel mesh

4 WINDOW + GLAZED DOORS SCHEDULE

Window + glazed doors	Location	Type				Hardware	Flyscreen	Bushfire screen	Notes
		Window frame + sash	Panel type	Glass	Architrave	Lockset Handles/Pull			
W01/D01	Entry	Timber	Hinged SC door and fixed glass	Clear toughened	AR2	Door h/ware Refer Door Schedule			Refer Door Schedule for door panel
W02	Entry Fan light + Clear storey windows	Timber	Fixed glass	Clear toughened	AR2				Fixed timber louvres to west elevation
W03	Toilet 1	Timber	Adjustable louvres	Opaques Toughened satinlite glass	AR1	Louvres Key lockable		BFS1	
W04/D05	Study	Timber	Hinged glazed pair doors Adjustable louvres fixed glass	Clear Toughened	AR1	Door h/ware Refer Door Schedule Louvres Key lockable		BFS2 BFS1 louvres only	Refer Door Schedule for door panel
W05	Guest bed	Timber	Adjustable louvres fixed glass	Clear Toughened	AR1	Schedule Louvres Key lockable			
W06/D08	Guest bed	Timber	Hinged glazed pair doors	Clear	AR1	Door h/ware Refer Door Schedule		BFS2	Refer Door Schedule for door panel
W07	Ensuite 1	Timber	Adjustable louvres	Opaque Toughened satinlite glass	AR1	Louvres Key lockable		BFS1	
W08/D11	Sitting room	Timber	Hinged glazed pair doors Sashless double hung Fixed glass	Clear	AR2	Door h/ware Refer Door Schedule Sashless double hung Key lockable		BFS1 DH only	Refer Door Schedule for door panel
W09	Sitting room	Timber	Sliding sashes Fixed glass	Clear	AR2	Key lockable FB Recessed sash pull		BFS1 sash only	

4 WINDOW + GLAZED DOORS SCHEDULE

Window + glazed doors	Location	Type				Hardware	Flyscreen	Bushfire screen	Notes
		Window frame + sash	Panel type	Glass	Architrave	Lockset Handles/Pull			
W10	Living Dining	Timber	Sashless double hung Fixed glass Mitred glass at corner	Clear Sashless double hung +mitred toughened	AR2	Sashless double hung Key lockable		BFS1 DH only	
W11/D13	Living Dining	Timber	Sliding glazed doors Fixed glass Mitred glass at corner	Clear Mitred corner toughened glass	AR2	Door h/ware Refer Door Schedule		BFS3	
W12	Living Dining	Timber	Adjustable louvres Fixed glass Mitred glass at corner	Clear Louvres +mitred corner toughened glass	AR2	Louvres Key lockable Ring handle type A13		BFS1 louvres only	
W13	Living Dining	Timber	Sashless double hung Fixed glass Mitred glass at corner	Clear Sashless double hung +mitred corner glass toughened	AR2	Sashless double hung Key lockable		BFS1 DH only	
W14	Family	Timber	Fixed glass	Clear	AR2				
W15	Family	Timber	Fixed glass	Clear	AR2				
W16/D16	Family	Timber	Sliding glazed doors Fixed glass Adjustable louvres	Clear Louvres toughened glass	AR2	Door h/ware Refer Door Schedule Louvres Key lockable		BFS3 BFS1 louvres only	

4 WINDOW + GLAZED DOORS SCHEDULE

Window + glazed doors	Location	Type				Hardware	Flyscreen	Bushfire screen	Notes
		Window frame + sash	Panel type	Glass	Architrave	Lockset Handles/Pull			
W17	Family Fan light + Clear storey windows	Timber	Fixed glass	Clear	AR2				
W18/D22	Bed 2	Timber	Hinged glazed door Adjustable louvres Fixed glass	Clear Louvres toughened glass	AR1	Door h/ware Refer Door Schedule Louvres Key lockable		BFS2 BFS1 louvres only	
W19	Ensuite 2	Timber	Adjustable louvres	Opaque Toughened satinlite glass	AR1	Louvres Key lockable		BFS1	
W20	Ensuite 2 + 3 Fan light + Clear storey windows	Timber	Fixed glass	Clear	AR2				
W21/D31	Bed 3	Timber	Hinged glazed door Adjustable louvres Fixed glass	Clear Louvres toughened glass	AR1	Door h/ware Refer Door Schedule Louvres Key lockable		BFS2 BFS1 louvres only	
W22	Bed 3	Timber	Adjustable louvres	Clear Louvres toughened glass	AR1	Louvres Key lockable		BFS1	
W23/D32	Hall 3	Timber	Hinged glazed door	Clear	AR1	Door h/ware Refer Door Schedule		BFS2	
W24	Laundry	Timber	Adjustable louvres Fixed glass	Clear Louvres toughened	AR1	Louvres Key lockable		BFS1 louvres only	

4 WINDOW + GLAZED DOORS SCHEDULE

Window + glazed doors	Location	Type				Hardware	Flyscreen	Bushfire screen	Notes
		Window frame + sash	Panel type	Glass	Architrave	Lockset Handles/Pull			
				glass					
W25	Bath	Timber	Adjustable louvres Fixed glass	Clear toughened glass	AR2	Louvres Key lockable		BFS1 louvres only	
W26	Bath Fan light + Clear storey windows	Timber	Fixed glass	Clear toughened	AR2				
W27	Bed 4	Timber	Adjustable louvres Fixed glass	Clear toughened glass	AR1	Louvres Key lockable		BFS1 louvres only	
W28/D18	Kitchen	Timber	Bifold glazed doors Adjustable louvres	Clear Doors and louvres toughened glass	AR2	Door h/ware Refer Door Schedule Louvres Key lockable	Internal FS1	BFS1 louvres only	
W29	Kitchen Fan light + Clear storey windows	Timber	Fixed glass	Clear toughened	AR2				
W30	Kitchen	Timber	Sashless sliding glass window	Clear Sashless slider glass toughened	AR2	Sashless slider Key lockable		BFS1	
W31/D50	Stair 1	Timber	Hinged glazed door Adjustable louvres	Clear Louvres toughened glass	AR2	Door h/ware Refer Door Schedule Louvres Key lockable		BFS2 BFS1	
W32	Stair 1	Timber	Fixed glass	Clear	AR2				
W33	Bath	Timber	Adjustable louvres Fixed glass	Clear Fixed toughened	AR2	Louvres Key lockable		BFS1 louvres only	

4 WINDOW + GLAZED DOORS SCHEDULE

Window + glazed doors	Location	Type				Hardware	Flyscreen	Bushfire screen	Notes
		Window frame + sash	Panel type	Glass	Architrave	Lockset Handles/Pull			
				glass					
W34	Bed 1/ Walk in robe	Timber	Fixed glass	Clear Fixed toughened glass	AR1				
W35	Bed 1/ Walk in robe	Timber	Fixed glass	Clear	AR1				
W36	Bed 1 / Study 2	Timber	Adjustable louvres Fixed glass	Clear Louvres toughened glass	AR1	Louvres Key lockable		BFS1 louvres only	
W37/D55	Bed 1	Timber	Bifold glazed doors	Clear toughened glass	AR1	Door h/ware Refer Door Schedule	Internal FS1		
W38/D56	Bed 1	Timber	Sliding glazed doors Fixed glass Adjustable louvres	Clear Louvres toughened glass	AR1	Door h/ware Refer Door Schedule Louvres Key lockable		BFS3 BFS1 louvres only	
W39	Bed 1	Timber	Fixed glass	Clear	AR2				Clearstorey
W40	Bed 1	Timber	Fixed glass	Clear	AR2				Clearstorey
W41/D35	Lanai	Timber	Bifold glazed doors Adjustable louvres	Clear Doors and louvres toughened glass	AR2	Door h/ware Refer Door Schedule Louvres Key lockable	Internal FS1	BFS1 louvres only	
W42/D38	Lanai Hall 5	Timber	Hinged glazed door Fixed glass	Clear	AR1	Door h/ware Refer Door Schedule		BFS2	
W43	Toilet 2	Timber	Adjustable louvres	Opaque Toughened satinlite glass	AR1	Louvres Key lockable		BFS1	
W44/D40	Lanai	Timber	Bifold glazed doors	Clear Doors and	AR2	Door h/ware Refer Door Schedule	Internal FS1	BFS1 louvres only	

4 WINDOW + GLAZED DOORS SCHEDULE

Window + glazed doors	Location	Type				Hardware	Flyscreen	Bushfire screen	Notes
		Window frame + sash	Panel type	Glass	Architrave	Lockset Handles/Pull			
			Adjustable louvres	louvres toughened glass		Louvres Key lockable			
W45	Lanai	Timber	Bifold glazed doors	Clear Doors toughened glass	AR2	Door h/ware Refer Door Schedule	Internal FS1		
W46 A + B	Garage	Timber	Adjustable louvres Fixed glass	Clear Louvres Toughened glass	AR1	Louvres Key lockable		BFS1 louvres only	
W47	Garage	Timber	Adjustable louvres Fixed glass	Clear Louvres Toughened glass	AR1	Louvres Key lockable		BFS1 louvres only	
W48/D43	Garage	Timber	Solid core external door Fixed glass	Clear	AR1	Door panel + door h/ware Refer Door Schedule			Fanlight + glass roof at door

5 INTERNAL WINDOW SCHEDULE

Internal Window	Location	Type				Hardware		Flyscreen	Bushfire screen	Notes
		Window frame	Panel type	Glass	Architrave	Lockset	Handles/Pull			
IW01	Bath /Hall 3	Recessed aluminium channel at plasterboard sill and ceiling	fixed glass	Clear	none					No silicone joint at jambs nominal 6 mm gap
IW02	Ensuite 2 / Ensuite 3	Recessed aluminium channel at plasterboard sill and ceiling	Fixed glass	Clear	none					No silicone joint at jambs nominal 6 mm gap
IW03	Living Dining /Family	Recessed aluminium channel at plasterboard sill and ceiling	Fixed glass	Clear	none					No silicone joint at jambs nominal 6 mm gap
IW04	Bed 1	Timber frame as door	Fixed glass	Opaque 6 38mm laminated glass white interlayer	AR1					
IW05	Bed 1/ Ensuite 4	Recessed aluminium channel at plasterboard sill and ceiling	Fixed glass	Clear	none					No silicone joint at jambs nominal 6 mm gap

6 EXTERNAL ALUMINIUM LOUVRE SCHEDULE

Aluminium Louvres	Location	Type				Hardware		Bushfire screen	Notes
		Frame + louvres	Panel type	Finish	Architrave	Lockset	Handles/Pull		
L1/D57	Plant room	aluminium	Hinged external louvred door	Powder coated		Door panel + door h/ware Refer Door Schedule		Stainless steel mesh rear face	Sill onto roof Raven RP26 draft and weather seal at sill
L2	Plant room	aluminium	Fixed louvred panel	Powder coated				Stainless steel mesh rear face	Raking sill onto roof
L3/D47	Pump room	aluminium	Hinged external louvred door	Powder coated	Ext angle	Door panel + door h/ware Refer Door Schedule		Stainless steel mesh rear face	Raven RP26 draft and weather seal at sill
L4/D42	Pool plant /Store room	aluminium	Hinged external louvred door	Powder coated	Ext angle	Door panel + door h/ware Refer Door Schedule		Stainless steel mesh rear face	Raven RP26 draft and weather seal at sill

6 PROVISIONAL SUMS SCHEDULE

NOTE ALL ALLOWANCES ARE INCLUSIVE OF GST

DOOR+WINDOW HARDWARE	
Refer WINDOWS + GLAZED DOORS SCHEDULE DOOR HARDWARE SCHEDULE EXTERNAL LOUVRE SCHEDULE	Supply only incl GST
– Supply hardware to doors glazed doors + window	$20 000
JOINERY	
Refer JOINERY	Supply + install incl GST
Supply and installation of cupboards Includes cupboard hardware cupboard door handles sliding door tracks UNO Excludes white goods	
– Kitchen cupboards including stainless steel bench top integrated sink marble bench to island bench glass splashback	$40 000
– Family joinery	$10 000
– Living /Dining joinery	$4 000
– Laundry cupboards excludes doors + frame to full ht cupboards west wall	$8 000
– Bath cupboard including mirror doors + marble top splashback and blade	$5 000
– Ensuite 1 2 + 3 cupboard including mirror doors + marble top splashback and blade	$15 000
– Ensuite 4 cupboard including mirror doors + marble top splashback and blade	$6 000
– Study joinery	$10 000
– Hall 2 cupboards excludes doors + frame to full ht cupboards	$3 000
– Hall 3 cupboards excludes doors + frame to full ht cupboards	$10 000
– Wardrobes Bed 1 2 3 4 and Guest room excludes doors + frame to full ht cupboards west wall	$20 000
– Bed 1 desk	$3 000
– Lanai BBQ includes s/steel bench integrated sink under bench fridge BBQ + BBQ exhaust hood splashback	$20 000
Total Joinery	**$154 000**
TILES	
Refer TILE FINISHES	Supply only incl GST
– Internal floor tiles Type A TF Vitrified floor tiles 100 x 100	$75/m2
– Internal floor tiles Type B TF Vitrified floor tiles 100 x 100	$75/m2
– Internal wall tiles Type C TW Johnson glazed wall tiles 200 x 100	$30 /m2
– Stone threshold Type D ST - selected stone diamond sawn finish150 wide	~~$40 / lm~~ $45 / lm
– External stone paving Type E PT - selected stone diamond sawn finish	~~$150/m2~~ $120/m2
– External stone paving Type E /1 Bull nose step treads and top tread full width x 300 wide PT - selected stone diamond sawn finish	$98/ lm

– External stone facing Type F STF selected stone diamond sawn finish	$150/m2
– Mosaic tiles Type G TF - selected mosaic tiles to Pool ~~+ Pond~~	$80/m2
T+G FLOORING + TIMBER DECKING	
Refer FLOORING + DECKING for timber decking TIMBER FLOORING for T+G flooring STAIRS for timber treads	Supply only incl GST
– Supply only new T+G strip flooring	$110/m2
– Supply only HW timber stair treads	$150 / tread
~~– Supply only new Timber decking~~	~~$80/m2~~
MECHANICAL – AIR CONDITIONING	
Refer MECHANICAL	Supply + install incl GST
– Supply + install air conditioning incl GST	$15 000
ELECTRICAL – EXISTING ELECTRICITY MAINS	
Refer ELECTRICAL	Supply + install incl GST
– Relocate existing incoming 3 ph mains power and supply and install new distribution board incl GST	$10 000
ELECTRICAL LIGHT FITTINGS	
Refer ELECTRICAL	Supply only incl GST
– Supply only light fittings incl GST Includes light fitting specified in landscape works	$15 000
ELECTRICAL – INTRUDER ALARM	
Refer ELECTRICAL	Supply + install incl GST
– Install existing system and extend	$5 000
APPLIANCES	
Refer MISCELANEOUS APPLIANCES + FIXTURES	Supply incl GST
– Supply only following appliances Dishwasher wall oven Cook top range hood Microwave Fridge	$18 000

GENERAL NOTES

1 EXISTING DRIVEWAY TO BE USED FOR ACCESS TO CONSTRUCTION SITE VEHICULAR MOVEMENTS ON EXISTING GRASS TO BE AVOIDED WHENEVER POSSIBLE

2 SEDIMENT FENCES TO BE INSPECTED WEEKLY OR FOLLOWING PERIODS OF RAINFALL EXCEEDING 10 mm CAPTURED SEDIMENT TO BE CLEARED AND FENCES MAINTAINED WHEN NECESSARY

DURING SITE CONSTRUCTION WORKS REGULAR SITE INSPECTIONS SHOULD BE UNDERTAKEN BY THE SITE FOREMAN AS FOLLOWS

AFTER PLACEMENT OF TEMPORARY SEDIMENT CONTROL FENCES AND DESIGNATED STOCKPILE AREAS

DURING SITE EARTHWORKS / EXCAVATIONS WHERE EROSION AND SEDIMENT LOSS ISSUES MAY ARISE (E G DURING HEAVY RAIN)

WEEKLY INSPECTION OF SEDIMENT CONTROL FENCES AND FOLLOWING PERIODS OF RAINFALL EXCEEDING 10 MM

AFTER COMPLETION OF REVEGETATION AND / OR REHABILITATION WORKS TO ENSURE ADEQUATE GROUND COVER HAS BEEN ESTABLISHED PRIOR TO REMOVAL OF SEDIMENT CONTROL MEASURES

SEQUENCE OF WORKS

1 PRIOR TO ANY CONSTRUCTION OR EXCAVATION WORKS INSTALL SEDIMENT FENCE DOWNSLOPE OF ALL WORK AREAS AS SHOWN

2 STRIP TOPSOIL FROM ANY EXCAVATION AREAS PRIOR TO BULK EXCAVATION AND STOCKPILE FOR LATER RE USE

3 ALL ACCESS ROADS AND SEDIMENT AND EROSION MEASURES ARE TO BE MONITORED AND MAINTAINED AS NECESSARY THROUGH OUT CONSTRUCTION

4 COMPLETE SITE LANDSCAPING AND REVEGETATE WITH TURF OR GRASS SEED AS SOON AS PRACTICAL AFTER OTHER CONTRUCTION WORKS

5 REMOVE ANY TEMPORARY SITE FACILITIES AT THE COMPLETION OF ALL SITE CONSTRUCTION AND REHABILITATION WORKS

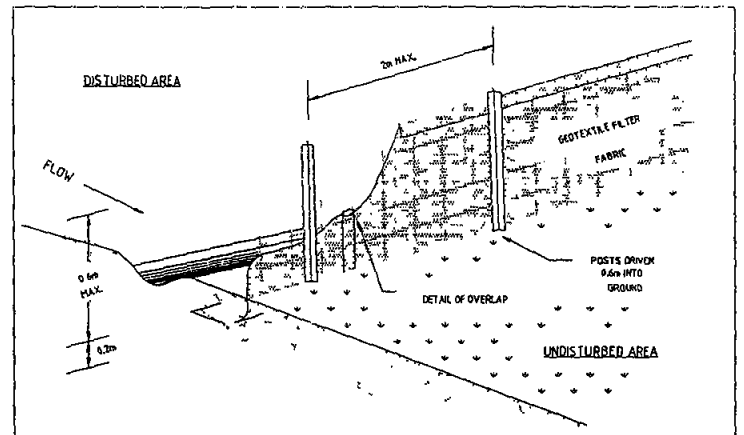
6 REMOVE TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES ONCE ALL ACTIVITES THAT MAY CAUSE SITE DISTURBANCES HAVE BEEN COMPLETED AND SITE VEGETATION HAS BEEN ADEQUATELY ESTABLISHED THIS MAY BE STAGED ACROSS THE SITE

KEY

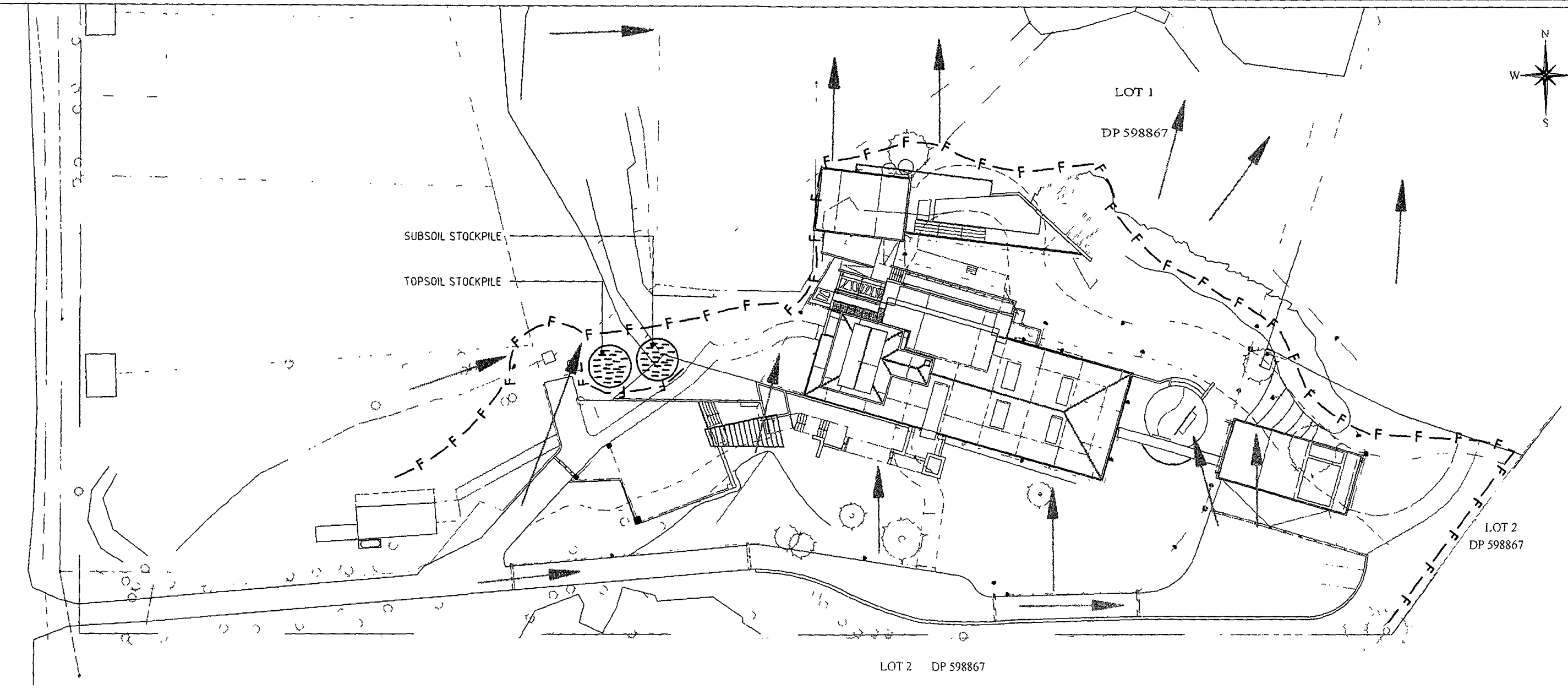
NATURAL DIRECTION OF SURFACE FLOWS

TOPSOIL AND EXCESS SUBSOIL STOCKPILED FOR LATER RE-USE

—F—F— SEDIMENT CONTROL FENCE



SEDIMENT CONTROL FENCE
NOT TO SCALE



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MARTENS & ASSOCIATES PTY LTD
Sustainable Solutions
Environmental Geotechnical Civil Hydraulic Wastewater Engineers

CLIENT/PROJECT: LEAHEY ARCHITECTS

TITLE: EROSION AND SEDIMENT MANAGEMENT PLAN 22 CHILTERN ROAD INGLESIDE

THIS PLAN MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS APPROVED BY PRINCIPAL CERTIFYING AUTHORITY. All other uses unless otherwise provided

PROJECT MANAGER: MR ANDREW NORRIS

DRAWING NUMBER: P0802138JD03_2_SHEET 2

DESIGNED	NBB
DRAWN	NBB
REVIEWED	AN
DATUM	AHD
HORIZONTAL RATIO	1250 @ A1, 1500 @ A3
VERTICAL RATIO	1250 @ A1, 1500 @ A3
SHEET	1 OF 1 SHEETS
PAPER SIZE	A1 / A3

REV	DESCRIPTION	DATE	ISSUED
1	CC SUBMISSION	03 11 2008	MT
2	CC SUBMISSION	20 02 2009	NBB