FINAL INSPECTION SHEET

Far North District Cou.

Date	23-01-01	Action 305	
BC#	992027	Time	2.00 AM/PM
Applicant /Builder	Mc Millan	phone #	
Valuation No.	618-233-00	Issue Interim CCC	Yes/ No Action 309
		Reinspection Needed	Yes/ No
Travelling Time	:	Officer	LBM
Inspection Time	:	Signature	LB Moore

FINAL INTERIOR Inspection		OK	Not	N/A	Comments
1	Handrails			✓	
2	Stairs			✓	
3	Fire Place clearances			✓	
4	Fire Place secured			✓	
5	Hearth size & secured			✓	
6	Sink insert secured correctly	✓			
7	Service room walls	✓			
8	Service room floors	✓			
9	Ceiling insulation Batts Yellow	✓			
10	Safety glass where required	✓			
11	Access for disabled - Commercial only			✓	
12	Facilities for disabled - Commercial only			✓	

FINAL EXTERIOR Inspection		OK	Not	N/A	Comments
1	Conditions on consent	✓			
2	Joints in bearers supported	✓			
3	Ground clearance to u/side of floor	✓			
4	Subfloor ventilation	✓			
5	Subfloor bracing	✓			
6	U/floor Insulation	✓			
7	Finished Ground level relation to ext sheathing & floor	✓			
8	Cladding (joints, corner, scribers window flashing etc)	✓			
9	Cladding penetrations sealed	✓			
10	Brick veneer weep holes cleared			✓	
11	Handrails & post fixings	✓			
12	Roof, ridging & flashings fixed correctly	✓			
13	Roof penetrations flashed correctly	✓			
14	Spouting fixed correctly	✓			
15	Down pipe clips at 1.2	✓			
16	Vent pipe clips at 1.2	✓			

BCAPP

PLUMBING		OK	Not	N/A	Comments
1	Waste pipe correct support & gradient	✓			
2	Waste pipe for washing machine	✓			
3	Ceiling tank and tray with Seismic restraint			✓	
4	1 metre minimum of copper outlet of HWC	✓			
5	Hotwater cylinder seismic restraint	✓			
6	Hat water tempering value set at 55 degrees	✓			
7	Hot water energy cut out switch to all valve vented systems	✓			
8	Hot water drain to outside of building	✓			
9	Filter, non return, stop, cold water expansion, pressure reducing & pressure relief valves	✓			
10	Notches & holes in joists & bearers	✓			
11	Waste pipes finished at gully trap	✓			
12	Wet back circulators correct size & fall			✓	
13	Adequate support to water pipes			✓	
14	Back flow prevention where required			✓	

DRAINAGE		OK	Not	N/A	Comments
1	Relief gully installed A or B	✓			
2	Gully dish 25 mm above sealed surface "A"			✓	
3	Gully dish 100mm above unsealed surface "B"	✓			
4	Stormwater drain finished	✓			
5	Foulwater drain finished	✓			
6	Ventilation to drains e.g. TV & or valves	✓			
7	Overflow to water tank			✓	
8	Retaining wall drainage connected into stormwater drain			✓	
9	Asbuilt drainage plan s/water and sewer				check
10	Access for septic tank maintenance			✓	
11	Producer statements required			✓	

ROAD DAMAGE		OK	Not	N/A	Comments
1	Footpath & kerb damage				
2	Crossing installed				

issue CCC after check if asbuilt on file

FAR NORTH
DISTRICT COUNCIL
Private Bag 752, Memorial Ave, KAIKOHE
Freephone: 0800 920 029, Ph: (09) 405 2750, Fax: (09) 401 2137

ABA BC 992027:VRN 00618-233-00

Thursday, December 28, 2000

Mcmillan Bob
C/- Steve Arnopp
State Highway 12
OPONONI 0452

Dear Sir or Madam,

Re: Plumbing & Drainage for New Dwelling at 106 SH 12 Opononi.

Following a final inspection on 19h December '00 at 2.00pm.

The following will need to be attended to before a Code Compliance Certificate can be issued.

PLUMBING

1. ***Waste pipe correct support & gradient – Need to support.***
2. ***Hot water cylinder seismic restraint – Need to adjust & fit extra strap.***
3. ***Adequate support to water pipes – Support water pipes.***

DRAINAGE

4. ***Asbuilt drainage plans/water and sewer – Not yet.***

Once this has been completed you will need to re-book a final inspection at the **Rawene** Service Centre by phoning 0800920029 and ask to be put through to this office and quote your ***Building Consent number ABA BC992027.***

Yours faithfully

pp Q Hardiman

LB Moor
BUILDING OFFICER/ENVIRONMENTAL SERVICES

FINAL INSPECTION SHEET

Far North Dis

Date: 19 - 12 - 00

Action: 305

BC#: 992027

Time: 2-00 AM/PM

Applicant /Builder: Bob McMillan opo

phone #:

Valuation No.: 618-253-00

Issue Interim CCC: ~~Yes~~/ No

Action: 3

Reinspection Needed: Yes/ No

Travelling Time: :

Inspection Time: :

Officer: LBM

Signature: LB Moon

FINAL INTERIOR Inspection		OK	Not	N/A	Comments
1	Handrails				Plumbing
2	Stairs				
3	Fire Place clearances				
4	Fire Place secured				
5	Hearth size & secured				
6	Sink insert secured correctly				
7	Service room walls				
8	Service room floors				
9	Ceiling insulation				
10	Safety glass where required				
11	Access for disabled - Commercial only				
12	Facilities for disabled - Commercial only				

FINAL EXTERIOR Inspection		OK	Not	N/A	Comments
1	Conditions on consent				
2	Joints in bearers supported				
3	Ground clearance to u/side of floor				
4	Subfloor ventilation				
5	Subfloor bracing				
6	U/floor Insulation				
7	Finished Ground level relation to ext sheathing & floor				
8	Cladding (joints, corner, scribers window flashing etc)				
9	Cladding penetrations sealed				
10	Brick veneer weep holes cleared				
11	Handrails & post fixings				
12	Roof, ridging & flashings fixed correctly				
13	Roof penetrations flashed correctly				
14	Spouting fixed correctly				
15	Down pipe clips at 1.2				
16	Vent pipe clips at 1.2				

Steve Arnopp Plumber

done QTH 28/12/00 ✓

PLUMBING		OK	Not	N/A	Comments
1	Waste pipe correct support & gradient		✓		Need to support
2	Waste pipe for washing machine	✓			
3	Ceiling tank and tray with Seismic restraint			✓	
4	1 metre minimum of copper outlet of HWC	✓			
5	Hotwater cylinder seismic restraint				Need to adjust & S.t extend strap.
6	Hat water tempering value set at 55 degrees	✓			
7	Hot water energy cut out switch to all valve vented systems	✓			
8	Hot water drain to outside of building	✓			
9	Filter, non return, stop, cold water expansion, pressure reducing & pressure relief valves	✓			
10	Notches & holes in joists & bearers	✓			
11	Waste pipes finished at gully trap	✓			
12	Wet back circulators correct size & fall			✓	
13	Adequate support to water pipes		✓		Support Water pipes
14	Back flow prevention where required				

DRAINAGE		OK	Not	N/A	Comments
1	Relief gully installed A or B	✓			
2	Gully dish 25 mm above sealed surface "A"				
3	Gully dish 100mm above unsealed surface "B"	✓			
4	Stormwater drain finished	✓			
5	Foulwater drain finished	✓			
6	Ventilation to drains e.g. TV & or valves	✓			
7	Overflow to water tank				
8	Retaining wall drainage connected into stormwater drain			✓	
9	Asbuilt drainage plan s/water and sewer				Not yet
10	Access for septic tank maintenance			✓	
11	Producer statements required			✓	

ROAD DAMAGE		OK	Not	N/A	Comments
1	Footpath & kerb damage				
2	Crossing installed				

FAR NORTH DISTRICT COUNCIL
Private Bag 752
KAIKOHE
Ph: 0800 920029
Fax: (09) 401 0987 or (09) 408 1404

POSTED

INSPECTION ADVISE NOTICE

TO: McMillan **DATE:** 21/2/00

ADDRESS: Omapere **CONSENT NO:** 992027

VAL NO: 618-233-00

TYPE OF INSPECTION CARRIED OUT

Site		Foundations	
Bond Beam	–	Slab	
Subfloor		Framing	
Preline		Drains	
Utility Services		Interim Final	
Final		Fire place	
Other (specify)			

Notes and/or action to be taken

OK

FURTHER INSPECTION REQUIRED: YES / ~~NO~~

SIGNED: ....

(For Council - Building Officer) (For Applicant/Builder/Agent)

TIME: ..... AM/PM **COPY REQUIRED:**

FAR NORTH DISTRICT COUNCIL
Private Bag 752
KAIKOHE
Ph: 0800 920029
Fax: (09) 401 0987 or (09) 408 1404

POSTED

INSPECTION ADVISE NOTICE

TO: McMillan ..... **DATE:** 9-2-00

ADDRESS: ..... **CONSENT NO:** 992027

..... **VAL NO:** .....

..... 618-233-00

TYPE OF INSPECTION CARRIED OUT

Site		Foundations	✓
Bond Beam		Slab	
Subfloor		Framing	
Preline		Drains	
Utility Services		Interim Final	
Final		Fire place	
Other (specify)	.....		

Notes and/or action to be taken

..... OK .....

.....

.....

.....

FURTHER INSPECTION REQUIRED: YES / ~~NO~~

SIGNED: .....
(For Council - Building Officer)

.....
(For Applicant/Builder/Agent)

TIME:..... AM/PM

COPY REQUIRED: ☐

FAR NORTH DISTRICT COUNCIL
Private Bag 752
KAIKOHE
Ph: 0800 920029
Fax: (09) 401 0987 or (09) 408 1404

POSTED

INSPECTION ADVISE NOTICE

TO: ..McMillan..... **DATE:** 16-2-00

ADDRESS: ..... **CONSENT NO:** 992027

..... **VAL NO:** .....

..... 618-233-00

TYPE OF INSPECTION CARRIED OUT

Site		Foundations	✓
Bond Beam		Slab	
Subfloor		Framing	
Preline		Drains	
Utility Services		Interim Final	
Final		Fire place	
Other (specify)	.....		

Notes and/or action to be taken

..... OK .....

.....

.....

.....

FURTHER INSPECTION REQUIRED: YES / ~~NO~~

SIGNED: .....
(For Council - Building Officer)

.....
(For Applicant/Builder/Agent)

TIME:..... AM/PM

COPY REQUIRED: ☐

FAR NORTH DISTRICT COUNCIL
Private Bag 752
KAIKOHE
Ph: 0800 920029
Fax: ,(09) 401 0987 or (09) 408 1404

POSTED

INSPECTION ADVISE NOTICE

TO: ....McMillan..... **DATE:** ..24/2/00.

ADDRESS: ..... **CONSENT NO:** ....992027...

.....Opononi..... **VAL NO:** .....

..... 618-233-00

TYPE OF INSPECTION CARRIED OUT

Site		Foundations	✓
Bond Beam		Slab	
Subfloor		Framing	
Preline		Drains	
Utility Services		Interim Final	
Final		Fire place	
Other (specify)	.....		

Notes and/or action to be taken

.....OK.....

.....

.....

.....

FURTHER INSPECTION REQUIRED: YES / ~~NO~~

SIGNED: ....

(For Council - Building Officer) (For Applicant/Builder/Agent)

TIME:..... AM/PM **COPY REQUIRED** ☐

The truss Diagrams are on there way. Hans will fax Through to Julie.

Hans Miller

FORM 3

APPLICATION FOR BUILDING CONSENT

(Section 33, Building Act 1991)

To: FAR NORTH DISTRICT COUNCIL Building Consent No: 992027

PART A : GENERAL [To be completed by all applicants]

APPLICANT*

Name: B. MACMILLAN Telephone:

Mailing Address: c/o RD.3 KAIKOHE

Builder: P. QUIGG. Telephone: 4057836

Address:

Contact Person: HANS MITT Telephone: 4054876

Address: RD3 KAIKOHE

*Under section 33 of the Building Act 1991, the applicant must be the owner of the land on which building work is contemplated or a person who or which has agreed in writing, whether conditionally or unconditionally, to purchase the land or any leasehold estate or interest in the land, or to take a lease of the land, while the agreement remains in force.

PROJECT

- ☐ New building — Area: 190 m²
- ☐ Relocated building — Area : ____ m²
- ☐ Alteration — Area : ____ m²
- ☐ Demolition — Area : ____ m²
- ☐ Plumbing/Drainage Only

Property uses(s): Residential Single Unit.

Description of work: New building.

Intended life:

- ☑ Indefinite but not less than 50 years
- ☐ Specified as ____ years

Estimated Value (inclusive of GST)

Building : $ 130.00 Plumbing & Drainage: $ ____ Total : $ 148,000.

PROJECT LOCATION

Street Address : ST HWY 12 OPONONI

Legal Description (as shown on certificate of title) : LOT 30 DP 16906 TAUMATA WEST BLOCK

Area: 668 m²/~~ha~~. Valuation No: 618-233

THIS APPLICATION IS FOR :

- ☑ Building consent only, in accordance with project information memorandum No : ____
  Issued on : ____
- ☐ Both building consent and a project information memorandum

FOR COUNCIL USE

Date Received: 9.7.99 Minimum Estimated Charge : $1767.50 Receipt No: ____

Paid by .....

PART B: PROJECT DETAILS [*Complete only if a separarte project information memorandum has ot been applied for*]

Provide information on the following matters as relevant [*Cross applicable boxes and attach information in duplicate*] :

- ☐ Location, in relation to legal boundaries, and external dimensions of all existing, new, relocated, or altered buildings or demolition work
- ☐ New and/or existing provisions for vehicular access, including parking
- ☐ Provisions to be made in building over or adjacent to any road or public place
- ☐ New and/or existing provisions for disposing of stormwater and wastewater
- ☐ Precautions to be taken where building work is to take place over existing drains or sewers or in close proximity to wells or watermains or under/over cables
- ☐ New and/or existing connections to public utilities
- ☐ New and/or existing provisions for water supply
- ☐ Provisions to be made in any demolition work for the protection of the public, suppression of dust, disposal of debris, disconnection from public utilities, and suppression of noise
- ☐ Any cultural heritage significance of the building or building site, including if it is on a marae.

PART C: BUILDING DETAILS [To Be *Completed by all Applicants*]

This application is accompanied by [*Cross applicable boxes, attach relevant documents in duplicate*]:

- ☐ Copy of the Certificate of Title.
- ☐ What existing buildings are on the property?
- ☐ The site plan and drawings, specifications, and other documents according to which the building is proposed to be constructed to comply with the provisions of the building code, with supporting documents, if any, including:
  - ☐ Building certificates
  - ☐ Producer statements
  - ☐ References to accreditation certificates issued by the Building Industry Authority
  - ☐ References to determinations issued by the Building Industry Authority
- ☐ Proposed procedures, if any, for inspection during construction

PART D: COMPLIANCE SCHEDULE DETAILS

D1 : SYSTEMS NECESSITATING A COMPLIANCE SCHEDULE

[Complete Part D1 for all new buildings and alterations, except single residential dwellings]

The building will contain the following [*Cross applicable boxes and attach proposed inspection, maintenance, and reporting procedures* in duplicate]:

- ☐ Automatic sprinkler systems or other systems of automatic fire protection
- ☐ Automatic doors which form part of any fire wall & which are designed to close shut and remain shut on an alarm of fire
- ☐ Emergency warning systems for fire or other dangers
- ☐ Emergency lighting systems
- ☐ Escape route pressurisation systems
- ☐ Riser mains for fire service use
- ☐ Any automatic back-flow preventer connected to a potable water supply
- ☐ Lifts, escalators, or travelators or other similar systems
- ☐ Mechanical ventilation or air conditioning system serving all or a major part of the building
- ☐ Any other mechanical, electrical, hydraulic, or electronic system whose proper operation is necessary for compliance with the building code
- ☐ Building maintenance units for providing access to the exterior and interior walls of buildings
- ☐ Such signs as are required by the building code in respect of the above-mentioned systems
- ☐ None of the above

D2 : OTHER SYSTEMS AND FEATURES TO BE INCLUDED IN THE COMPLIANCE SCHEDULE

[Complete Part D2 only if the building contains one or more of the systems listed in Part D1]

The building will contain the following [*Cross applicable boxes and attach proposed inspection, maintenance, and reporting procedures* in duplicate]:

- ☐ Means of escape from fire
- ☐ Safety barriers
- ☐ Means of access and facilities for use by persons with disabilities which meet the requirements of section 25 of the Disabled Persons Community Welfare Act 1975
- ☐ Hand-held hoses for fire fighting
- ☐ Such signs as are required by the building code or section 25 of the Disabled Persons Community Welfare Act 1975

PART E: KEY PERSONNEL [*Complete as relevant*]

Designer : HANS MITT Reg No:

Address: RD 3 KAIKOHE Tel : 4054876

Registered drainlayer : Reg No:

Address: Tel :

Registered plumber : Reg No:

Address: Tel :

Registered gasfitter : Reg No:

Address: Tel:

Registered electrician : Reg No:

Address: Tel:

Other :

If you intend to use a Building Certifier, provided information below.

Building certifier(s) : Reg No:

Address: Tel:

Signed by or for and on behalf of the applicant:

Name : Hans Mett

Position : designer Date : 6/7/99

POSTAL:

Kaikohe Service Centre
Private Bag 752, Kaikohe
(09) 401 2101

HAND DELIVER:

Kaitaia Service Centre
Redan Road, Kaitaia
(09) 408 1400

Kaikohe Service Centre
Memorial Drive, Kaikohe
(09) 401 2101

Kawakawa Service Centre
Gillies Street, Kawakawa
(09) 404 0371

Kerikeri Service Centre
Hobson Ave, Kerikeri
(09) 407 7033

Kaeo Service Centre
Leigh Street, Kaeo
(09) 405 0297

Rawene Service Centre
Parnell Street, Rawene
(09) 405 7829

BUILDING CONSENT NO BC 992027
TRACKING SHEET

NAME: MACMILLAN, B *DATE:* 12 July 1999

VAL. NO: **00618-233-00**

LEGAL DESC: LOT 30 DP 16906

BUILDING: NEW DWELLING

LOCATION: 106 STATE HIGHWAY 12 OPONONI/OMAPERE

RESOURCE PLANNER

DATE: 19/7/99 *SIGNED:*

CONDITIONS: As long as deck deleted it is ok ~~Hold~~

DEVELOPMENT ENGINEER

DATE: *SIGNED:*

CONDITIONS:

PLUMBING & DRAINAGE INSPECTOR

DATE: *SIGNED:* M J Reason

CONDITIONS:

14-7-99

BUILDING INSPECTOR

DATE: *SIGNED:* M J Reason

CONDITIONS: Please note Engineer may have to Design foundation if site is Quantable

2.4 studs to be at 480 spacings.

OTHER : _____

DATE: *SIGNED:*

CONDITIONS:

(please turn over)

BUILDING CONSENT:

Building Net } $ 1350-00

P & D Net }

BRANZ Levy $ _____

BIA Levy $ _____

TOTAL $ _____

OTHER FEES:

Road Damage Deposit $ _____

Water Connection $ _____

Sewer Connection $ _____

Other _____ $ _____

_____ $ _____

EXTRA PROCESSING COSTS:

Mileage

Photocopying

Other

_____

TOTAL BUILDING CONSENT FEES $ _____

Less Deposit paid $ _____

BALANCE NOW DUE $ _____

BUILDING CONSENT No. _____ - PLANNING CHECK LIST

Operative District Plan

Zoning: Res 1.

Standards/Rules not complied with:

27m SETBACK FROM MHWS.

'BUILDING' DEFINITION EXCLUDES DECKS/VERANDAHS.

Deck removed ok

Proposed District Plan

Zoning: _____

Type of Activity under the Resource Management Act 1991?

DISCRETIONARY. Resulted

Does the project require a resource consent under either Plan?

Operative		Proposed	
No	☑	No	☐
Yes	☒ Yes	Yes	☐

Resource Consent granted?

No ☐

Yes ☐

RC # _____ Date granted: _____

Conditions appropriate to this project?

No ☐

Yes ☐ Attached.

Has this property been part of a subdivision?

No ☐

Yes ☐

Licenses that may be required to operate:

☐ Liquor license

☐ Health license

☐ Dangerous Goods license

☐ Other license _____

Note: This listing is not intended to contain all licenses, permits or other legal requirements relevant to the proposed project.

BUILDING CONSENT PROCESSING SHEET

CONSENT NUMBER: 992027 **DATE RECEIVED:** 917

SITE ADDRESS: SH 12.

ACTION/OFFICER	TIME	NO INSPECT	TRVL TIME	INITIALS	DATE
Check application - Administrator	Mins 10				
Prepare file and data entry	Mins 15				
Process application - Resource Planner - Environmental Health - Plumbing and Drainage - Building officer - Engineer - land fill - flood prone	 Mins ..... Mins ..... Mins ..... Mins ..... Mins ..... Yes/No Yes/No				 ....
Dangerous Goods/Geothermal	Mins			.....	.....
Recreation and Community	Mins			.....	.....
Word processing	Mins			.....	.....
Update data entry, issue invoice	Mins			.....	.....
Issue consent	Mins			.....	.....
Fax/coping costs	Yes/No			$	.....
Sewerage connection required	Yes/No				
Water connection required	Yes/No				
Stormwater connection required	Yes/No				
TOTAL	Mins				

HANS MITT — DESIGN
Gorge Rd., RD.3 KAIKOHE Ph./Fax 09 4054876

16.7.99

FNDC
Env. S.

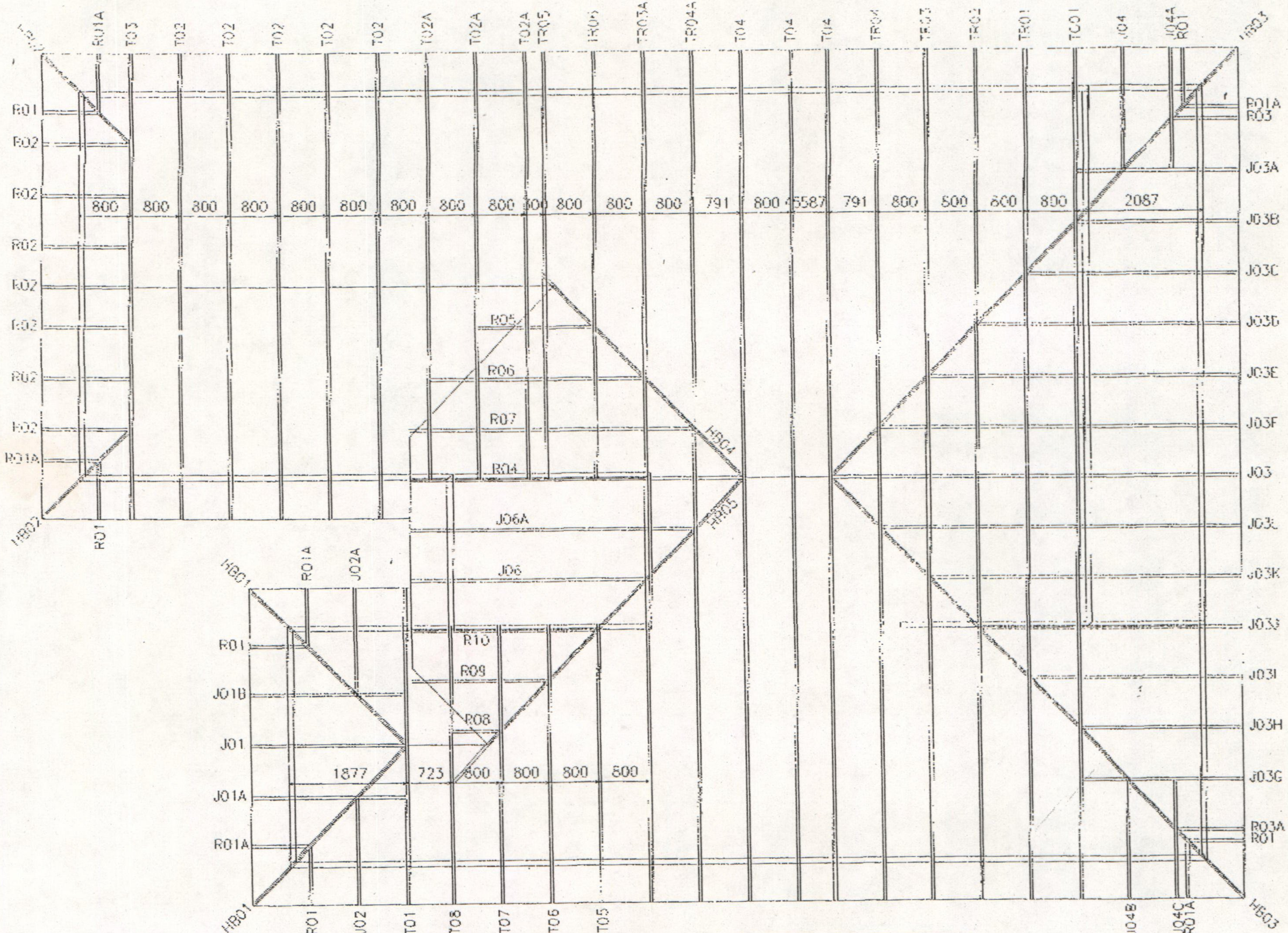
Attn Julie Ref. 992027

Re. Deck exceeding 27m
M.H.W.

PLEASE Delete Deck
in question from
application

Regard
Hans Mitt.

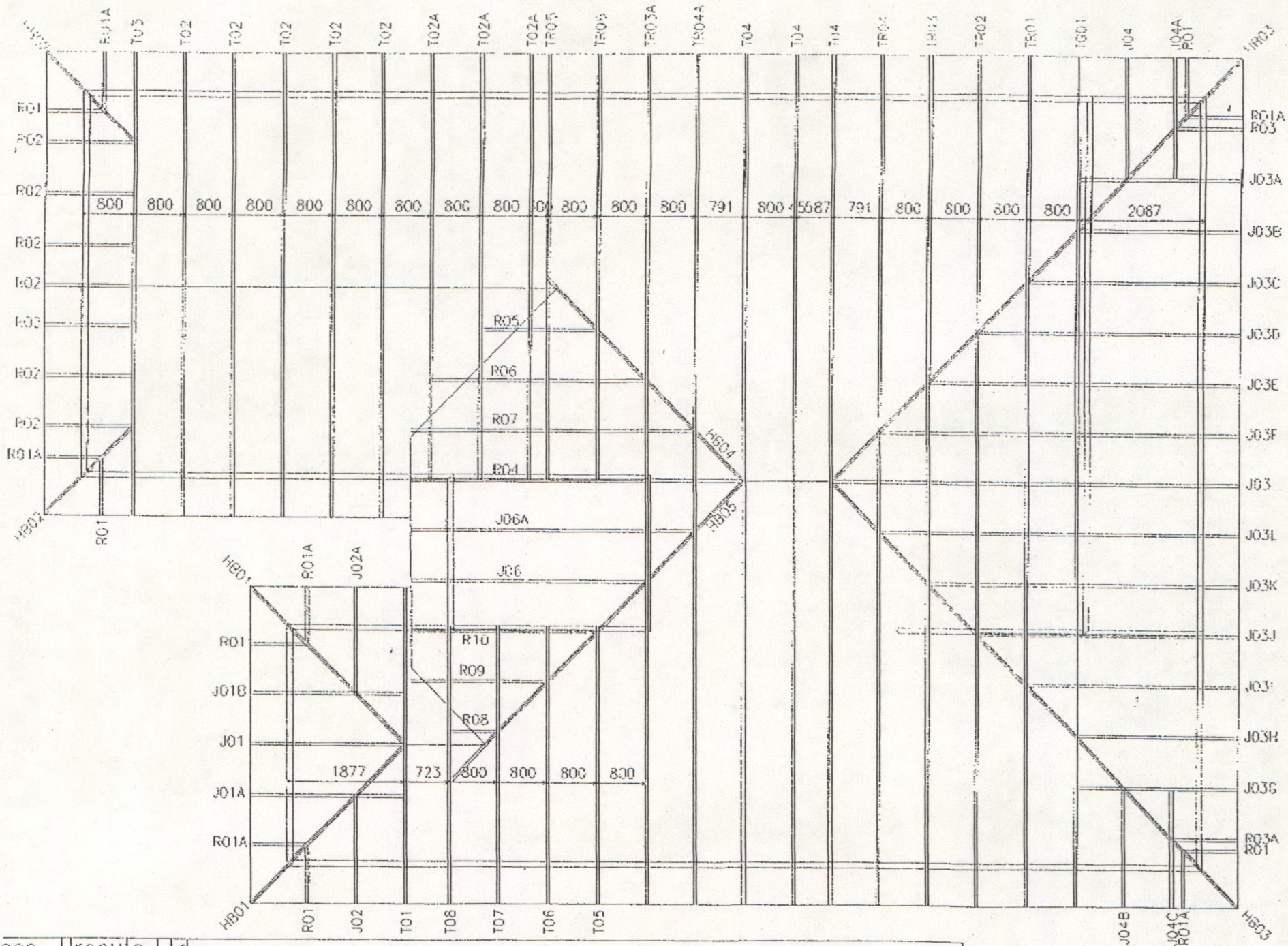
MACMILLAN J03 - from Hans



Keri Trusses Precuts Ltd.

Name: PlaceMakers
Job Name: McMILLAN HOUSE
Address: HOKIANGA

Description: McMILLAN
Job: 1632MCMI



Kerr Trusses Precuts Ltd.

Name: PlaceMakers
Job Name: McMILLAN HOUSE
Address: HOKIANGA

Description: McMILLAN

Job: 1632MCMI

Job: 1632MC MI Client: PlaceMakers
Phone: (09) 4079324

Site: McMILLAN HOUSE
HOKAINGA

Description: McMILLAN

Phone:

MiTek 2000 2.100 g6e Gang Nail Group Ltd Wed Jul 14 14:23:34 1999

Truss	Span	Joint	Down(kN)	Uplift(kN)	Selected Fixing
T06	3800	A	2.697	2.078	
		E	2.664	2.675	
T07	3800	A	2.683	2.233	
		D	2.643	2.546	
T08	3800	B	2.697	2.316	
		G	2.665	2.435	
TG01	12200	A	7.153	6.989	
		Q	2.105	0.900	
		V	15.267	15.883	
TR01	12200	A	7.988	7.811	
		L	7.988	7.811	
TR02	12200	A	8.055	7.785	
		J	8.055	7.785	
TR03	12200	A	6.939	6.618	
		K	5.443	5.175	
		M	3.863	3.726	
TR03A	12200	A	6.239	6.076	
		I	4.949	4.799	
		N	2.270	1.322	
		K	3.365	3.322	
TR04	12200	A	8.190	7.733	
		K	8.190	7.733	
TR04A	12200	A	8.190	7.733	
		K	8.190	7.733	
TR05	6100	A	4.034	3.683	
		H	3.909	4.083	
TR06	6100	A	4.061	3.542	
		F	3.937	4.184	

Note:
1) Select fixings from the LumberLok Brochure 96/6 (Timber Connectors Characteristic Loadings Data) with down and uplift characteristic loads of at least the values shown for each joint.
2) Truss with the strike through denotes failed to design.

Keri Trusses & Precuts Ltd.

Job: 1632MCM! Client: PlaceMakers Site: McMILLAN HOUSE
Phone: (09) 4079324 HOKAINGA

Description: McMILLAN

Phone:

MiTek 2000 2.100 g6e Gang Nail Group Ltd. Wed Jul 14 14.23.33 1999

TRUSS FIXING SELECTION LOAD REPORT

Truss	Span	Joint	Down(kN)	Uplift(kN)	Selected Fixing
J01	1877	A	2.032	0.863	
		C	2.032	1.423	
J01A	1877	A	1.856	0.617	
		C	1.614	0.271	
		B	1.909	1.144	
J01B	1877	A	1.856	0.617	
		C	1.614	0.271	
		B	1.909	1.144	
J02	1077	A	1.747	0.460	
		C	1.519	0.167	
		B	1.628	0.624	
J02A	1077	A	1.747	0.460	
		C	1.519	0.167	
		B	1.628	0.624	
J03	2087	A	2.093	0.937	
		D	1.839	1.157	
		F	1.688	0.474	
J03A	2087	A	2.230	1.351	
		E	2.069	1.188	
J03B	2087	A	2.065	0.864	
		E	2.154	1.704	
J03C	2087	A	2.093	0.937	
		C	1.839	1.157	
		E	1.688	0.474	
J03D	2087	A	2.093	0.937	
		C	1.839	1.157	
		E	1.688	0.474	
J03E	2087	A	2.093	0.937	
		D	1.839	1.157	
		F	1.688	0.474	
J03F	2087	A	2.093	0.937	
		D	1.839	1.157	
		F	1.688	0.474	
J03G	2087	A	2.269	1.421	
		C	2.030	1.118	
J03H	2087	A	2.110	0.965	
		D	2.110	1.603	
J03I	2087	A	2.110	0.965	
		C	2.110	1.603	
J03J	2087	A	2.093	0.937	
		C	1.839	1.157	
		E	1.688	0.474	
J03K	2087	A	2.093	0.937	
		D	1.839	1.157	
		F	1.688	0.474	
J03L	2087	A	2.093	0.937	
		D	1.839	1.157	
		F	1.688	0.474	
J04	1287	A	1.821	0.562	
		C	1.545	0.202	
		B	1.676	0.752	
J04A	1287	A	1.656	0.321	
		C	1.551	0.170	
		B	1.505	0.302	
J04B	1287	A	1.821	0.562	
		C	1.545	0.202	
		B	1.676	0.752	
J04C	1287	A	1.656	0.321	
		C	1.551	0.170	
		B	1.505	0.302	
J06	3200	A	2.497	1.510	
		D	2.497	2.458	
J06A	3200	A	2.497	1.510	
		E	2.497	2.458	
T01	3800	A	3.159	2.834	
		E	3.159	2.834	
T02	6100	A	4.108	3.821	
		E	4.108	3.821	
T02A	6100	A	4.108	3.821	
		E	4.108	3.821	
T03	6100	A	4.104	3.818	
		E	4.104	3.818	
T04	12200	A	8.277	7.700	
		I	8.277	7.700	
T05	3800	A	2.707	1.886	

Keri Trusses & Precuts Ltd.

Job: 1632MCMI Client: PlaceMakers Site: McMILLAN HOUSE
Phone: (09) 4079324 HOKAINGA

Description: McMILLAN Phone:

MiTek 2000 7.100 gée — Gang Nail Group Ltd. — Wed Jul 14 14:23:33 1999

PRODUCER STATEMENT
MiTek 2000(tm) ROOF TRUSS DESIGN

Certification of Mitek 2000(tm) Design Program

The MiTek 2000(tm) roof truss design program has been developed by Gang-Nail NZ Ltd for the design of Gang-Nail timber roof trusses in New Zealand. The truss designs computed by this program are prepared using sound and widely accepted engineering principles, and in accordance with NZS 4203, NZS 3603 and NZS 3604 as verification methods and acceptable solutions of the approved documents issued by the Building Industry Authority to satisfy the requirements of Clause B1:Structure of the Building Regulations 1992. This computer design for the proposed building complies with the relevant provisions of the NZ Building Code. This is subject to all proprietary products meeting their performance specification requirements, the provision of adequate bracing, fixings and the correct input of design data carried out by suitably trained personnel.

Summary of MiTek 2000(tm) Design Data and Output

The MiTek 2000(tm) computer design output for this job titled and located at the site identified on the top of this page is based on the following parameters entered into the program. The owner must ensure that the following job details below are current and relevant to the project before fabrication and erection of the Gang-Nail trusses.

Job Details

Roof Pitch:	25.00 deg	Timber Inventory:	CHEMFREE 45	Building Wind Zone:	VeryHigh
Roof Material:	VYTEC 15mmPLY	Ceiling Material:	Standard	Design Wind Speed:	50.0 m/s
TC Dead Load:	0.350 kPa	BC Dead Load:	0.200 kPa	Pressure Coefficient:	Cpe = -0.9
TC Restraints:	600 mm centres	BC Restraints:	400 mm centres		Cpi = 0.3
Roof Live Load:	Lu = 0.250 kPa	Truss Spacing:	600 mm		
	Lc = 1.0 kN	Standard Overhang:	600 mm		

These trusses must be fabricated and erected in accordance with the Gang-Nail manual. Proper erection bracing must be installed to hold the components true and plumb and in a safe condition until permanent bracing is fixed. All permanent bracing and fixing must be installed before any loads are applied. The specifications for timber shall be as shown on the output. The timber shall be standard gauged and treated to the requirements of NZMP 3640

Truss List

Legend: *: detail only, ?: input only, ~~Txx~~: failed design, Unmarked trusses: designed successfully

Truss	Span (mm)	Pitch (deg)	Spacing (mm)	Truss	Span (mm)	Pitch (deg)	Spacing (mm)	Truss	Span (mm)	Pitch (deg)	Spacing (mm)	Truss	Span (mm)	Pitch (deg)	Spacing (mm)
J01	1877	25.00	600	J03F	2087	25.00	600	J06	3200	25.00	600	TG01	12200	25.00	600
J01A	1877	25.00	600	J03G	2087	25.00	600	J06A	3200	25.00	600	TR01	12200	25.00	600
J01B	1877	25.00	600	J03H	2087	25.00	600	T01	3800	25.00	600	TR02	12200	25.00	600
J02	1077	25.00	600	J03I	2087	25.00	600	T02	6100	25.00	600	TR03	12200	25.00	600
J02A	1077	25.00	600	J03J	2087	25.00	600	T02A	6100	25.00	600	TR03A	12200	25.00	600
J03	2087	25.00	600	J03K	2087	25.00	600	T03	6100	25.00	600	TR04	12200	25.00	600
J03A	2087	25.00	600	J03L	2087	25.00	600	T04	12200	25.00	600	TR04A	12200	25.00	600
J03B	2087	25.00	600	J04	1287	25.00	600	T05	3800	25.00	600	TR05	6100	25.00	600
J03C	2087	25.00	600	J04A	1287	25.00	600	T06	3800	25.00	600	TR05	6100	25.00	600
J03D	2087	25.00	600	J04B	1287	25.00	600	T07	3800	25.00	600				
J03E	2087	25.00	600	J04C	1287	25.00	600	T08	3800	25.00	600				

The computer design input has been carried out by:

Signed: Gary Nash Date: 14/07/99

Name of Computer Operator: Gary Nash

Qualifications and Title: Detailer

Company: Keri Trusses & Precuts Ltd.

Verification / Acceptance of Input Data:

I have checked the input data against the construction drawings and specifications and verify that they are correct and suitable for this job.

Signed: ..... Date: .....

Name: ..... Company: .....

PROJECT INFORMATION MEMORANDUM / BUILDING CONSENT REQUEST FOR INFORMATION (§30)

NAME: B. MACMILLAN	**DATE:** 13/7/99	**PIM/BC No:** 992027.
VALUATION No: 618-233-00	**LEGAL DESC:** LOT 30 DP 16906.	
BUILDING:	**LOCATION:**	

RE: PIM / BC / BOTH

In order to process your application for a project information memorandum, the following information is requested. The time period for processing is hereby suspended as provided for under §30 and will not be resumed until the information is received.

THE BUILDING (DECK/VERANDAH) IS SHOWN AS BEING WITHIN THE 27m WATER SETBACK. THE DEFINITION OF BUILDING EXCLUDES FENCES & WALLS & SWIMMING POOLS, BUT DOES NOT EXCLUDE DECKS OR VERANDAHS. THEREFORE, A RESOURCE CONSENT IS REQUIRED.

Resource Planner _____ Date 13/7/99

PFE RC APPLICATION FORMS TO BE COMPLETED & RETURNED TO COUNCIL FOR PROCESSING.

Engineer _____ Date _____

Plumbing & Drainage Inspector _____ Date _____

Building Inspector _____ Date _____

JM:BC 992027

Resource Planner

14 July 1999

B MacMillan
C/- Hans Mitt
R D 3
KAIKOHE

Dear Sir/Madam

RE: BUILDING CONSENT APPLICATION 992027 - NEW DWELLING

I write in reference to the abovenamed building consent application recently lodged with the District Council.

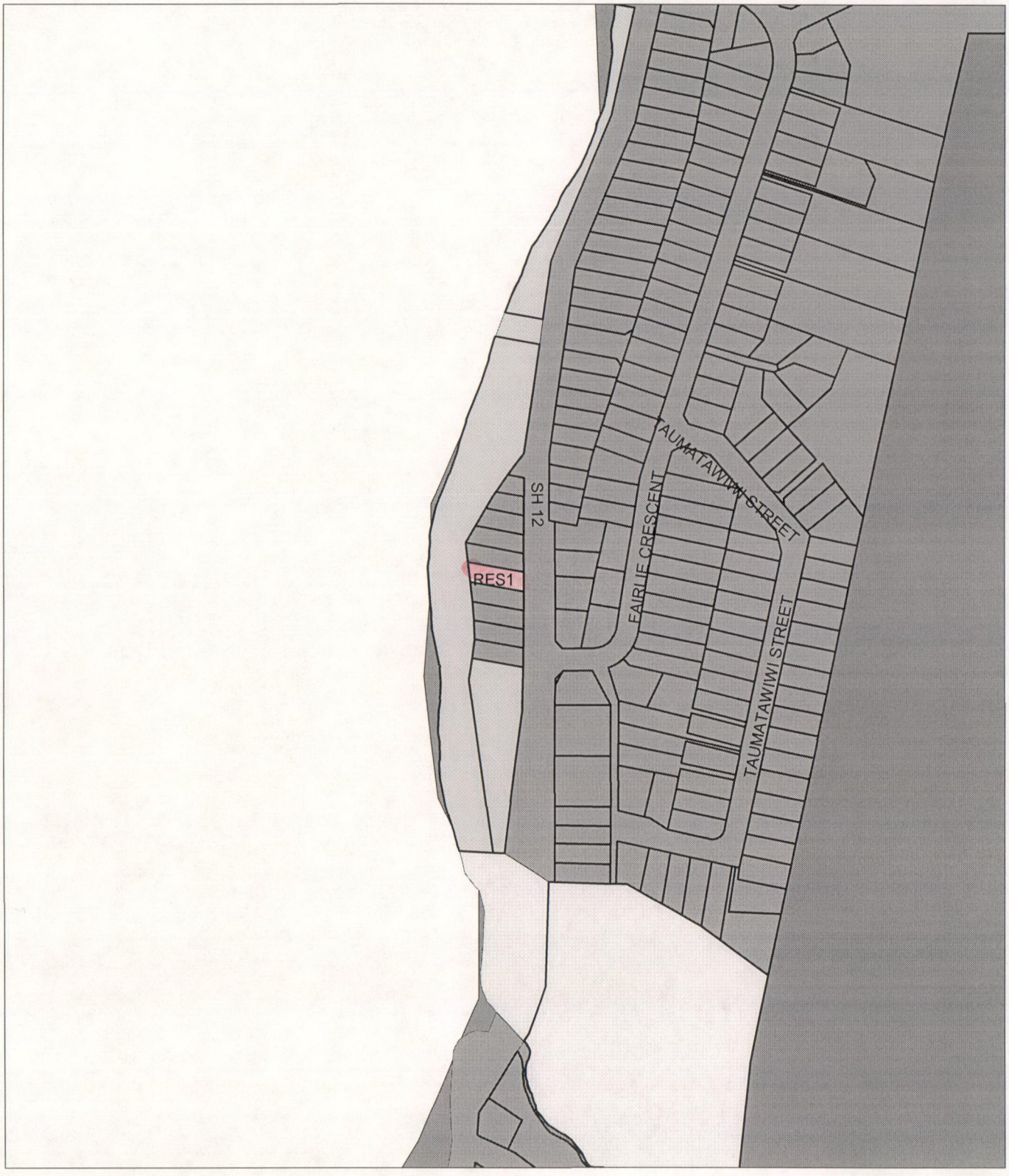
Pursuant to Section 34(2) of the Building Act 1991 the processing of your application has been suspended until the following additional information is provided:

1 The building (deck/verandah) is shown as being within the 27 metre water setback. The definition of building excludes fences, walls and swimming pool but does not exclude deck or verandahs. Therefore, a Resource Consent is required. Please find enclosed the appropriate application form to be completed and returned to Council along with the minimum deposit fee of $250.00.

If you have any queries please do not hesitate to contact a Resource Planner at the Kaikohe Service Centre and address any correspondence to the Building Office at the Kaikohe office.

Yours faithfully

Julie McKee
ENVIRONMENTAL SERVICES ADMINISTRATOR



Property Location: 106 STATE HIGHWAY 12 OPONONI/OMAPERE Property Area: 0.0668ha.
MACMILLAN ROBERT PERCIVAL
00618-233-00
LOT 30 DP 16906

PROPERTY INQUIRY

Date: 12/7/99

SPECIFICATION

For the erection of ..... BEACH HOUSE .....

at ..... SH HWY 12 .....

for ..... B. MACMILLAN .....

This is the specification referred to in an "Agreement" (1) between

..... as Owner, and

..... as Builder,

dated ..... and if not mentioned the Agreement (1) takes notice of the following completion and penalty clauses.

Time for completion ..... weeks from acceptance of tender.

Liquidated damages for delayed completion shall be $..... per week. Extensions to the contract period for extra work or for contingencies beyond the control of the contractor to be as agreed between the parties at the time and added to the time for completion.(2)

***PAYMENTS AND BONDS:**

Standard monthly progress claims that allow ready assessment of the quality and value of the work carried out shall, subject to compliance with contract requirements, be processed within 10 days of receipt.

For purposes of ensuring adequate and fair performance throughout, catering for a 30 day Maintenance (Defects Liability) period as under P & G No. 10, 10% of the contract sum shall be retained as a form of Contractor's Bond in accord with:-

(a) Addendum D of the N.Z.I.A. General Conditions of Contract

(b) Form F.H.4 from N.Z.M.B.F., or

(c) As agreed between the owner's lawyer and the builder's lawyer.

ARBITRATION:

If dispute or difference should arise between the Owner and Contractor the Contract shall be subject to arbitration under the Aribtration Act 1908.

*Foot Notes:

(1) The Agreement referred to and a suitable form of contract (Conditions of Contract) shall be provided by the Owner ..... or Contractor ..... and is to be completed by all parties before the site work is commenced.

(2) All additions and deletions made in this Specification before signing of the Agreement shall be dated not later than the date of Agreement. Any subsequent additions, omissions or variations to the contract shall be authorised in writing and an agreed price stated.

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IT IS IMPORTANT TO READ "LIMITATIONS" AND "GUIDANCE" PRINTED BELOW. CURRENT COPIES OF THE NEW ZEALAND STANDARDS MENTIONED, PARTICULARLY IN CLAUSE 1 OF "PRELIMINARY AND GENERAL" (PAGE 2), CAN BE PURCHASED FROM THE AUCKLAND BUILDING CENTRE AND SHOULD BE KEPT ON SITE.

LIMITATIONS

This specification is essentially for a house to be built in accordance with NZS 3604 : Code of Practice for "LIGHT TIMBER FRAME BUILDINGS not requiring specific design...." otherwise referred to simply as NZS 3604.

The code allows houses on timber or concrete pile system, pole platform foundation or on foundation walls of reinforced concrete or masonry. The latter foundation should be in accord with NZS 4229 : "Code of Practice for concrete masonry buildings not requiring specific design".

NZS 3604 provides for so many variables, via new techniques and materials and its greater engineering approach, that a short standard specification of this type has to be limited to a "Guidance Only Format".

To use THIS specification for building permit application purposes, and for accurate pricing, it becomes more important than before to DELETE non-applicable clauses and to ADD new or more appropriate clauses - according to the Owner's, designer's and builder's greater freedom of choice.

The necessity to delete and add will increase the more the proposed new house is to differ from the normal 2.4m stud, single storey type.

GUIDANCE

Please do not neglect to make the necessary deletions and additions to this specification. Also ensure that your drawings for the house are correct according to the deletions and additions made.

Revised Edition 1991 by: Able Building Consultants, P O Box 36-165, Northcote, Auckland. Ph: 418-3866

PRELIMINARY AND GENERAL

1. **SCOPE:**
This specification conforming with the attached Agreement and Conditions of Contract describes the work to be done and the materials to be used in the construction of the house shown on the attached drawings. The Contractor is expected to be familiar with the site and the Local Building Bylaws, especially where relevant clauses of NZS 3604 and NZS 4229 apply to the contract. The above number NZ Standards shall be included in the contract documents and kept on site and made available as necessary for purposes of supervision by the owner or his agent to ensure compliance of work during and on completion of the contract.

2. **PERMITS:**
Contractor to comply with the Labour and Building bylaws of the district, to apply for an obtain all the necessary permits and to pay all fees for same, unless otherwise mentioned.

3. **CONSTRUCTION ACT:**
The provision of the Construction Act 1959 and regulations are deemed to be part of this contract.

4. **PROVIDE & FIX:**
The words "provide" and "fix" shall be construed to mean "provide" and "fix" where mentioned separately unless otherwise mentioned.

5. **INSURANCE/INDEMNITIES:**
The Contractor to have all of his employees covered against accident by an Employers' Liability Policy and to take out insurance against fire and theft of materials off-site for a sum sufficient to cover the full amount of the Contract Sum, both policies to remain in force until the building is taken over by the Owner; the fire insurance to be in the joint names of the Owner and Contractor.

6. **INTERPRETATION:**
Work or materials shown on the drawings or specified and not shown, must be supplied as though both shown and specified. Materials shown but not specified must be of the kinds commonly employed for the service they are intended to perform. All figured dimensions shall be taken in preference to scale. The Contractor shall be held responsible for the setting out of work and he shall make good at his own expense any errors that occur through his lack of checking or faulty workmanship.

7. **STABILITY:**
The Contractor shall carefully brace and support all parts of his work against damage by wind and protect work from the elements as necessary during construction.

8. **PROTECTION OF PROPERTY:**
The Contractor shall protect adjoining properties during the contract and shall make good all damage at his own expense.

9. **DAMAGE:**
The Contractor shall make good at his own expense and to the satisfaction of controlling authorities, any damage done to footpaths, kerbs, drainage, etc., or other property under control of such authorities. Each trade shall take care to prevent damage or disfigurement of the work of other trades and will be responsible for cost of restoring same.

10. **MAINTENANCE:**
Owner not familiar with building procedures and standards, are advised to appoint an independant consultant to undertake an inspection and compile a list of matters that may require attention at the commencement of the 30 day period.

11. **MATERIALS:**
Any materials herein specified that are not procurable at the time they are required, thus tending to retard the progress of the Contract, may be substituted with other similar materials, providing that the substituted materials conform to the Local Bylaws and with permission of the Owner. The Contractor is first to notify the Owner of any change proposed and at the completion of the Contract will adjust any difference in cost.

12. **CONTINGENCIES:**
Provision is made by the Builder and Owner to meet any contingencies that may arise due to the fluctuations in the price of various materials or labour. Should there be either a rise or fall in the price of labour or materials, from the date that the tender is submitted until final payment, an adjustment to the Contract Price, is to be made accordingly provided that the Contract Price has been affected by such rise or fall in prices. The sum of $ is allowed in the Contract Price as a Contingency Fund. The Owner will expect the Builder to submit proof of any increases claimed for by way of invoices or labour costs.

13. **VISIT SITE:**
Tenderers shall visit the site and ascertain the nature and extent of the work and the rights and interests that may be interfered with and any other matter that may influence the making up of a tender or the carrying out of the Contract in its entirety. The levels shown on the drawings are approximately correct but tenderers shall varify these as no claims for extra will be allowed on the basis of incorrect levels shown.

14. **WORKMANSHIP:**
All work shall be carried out in accordance with the best trade practice, in strict conformity with the drawings and specification to the satisfaction of the Owner. All defective or damaged work shall be removed and made good to the satisfaction of the Owner.

15. **CLEANING:**
The Contractor, at the conclusion of the Contract, shall have all ceilings, walls and woodwork carefully dusted and wiped down, windows washed and glass free from scratches, floors brushed and wiped down and the entire building left in a perfectly clean condition for occupation.

EXCAVATOR

1. **PRELIMINARY AND GENERAL:**
Note where Preliminary and General clauses apply to this trade.

2. **ALLOWANCE IN TENDERING:**
Allow for foundation depths as shown on drawings (450mm below cleared gound level as if in an expansive clay). Any variations from dimensions shown to be adjusted in terms of Clause (Insert Clause No.) of the General Conditions of Contract.

3. **SETTING OUT:**
Set out the work as shown or implied on the drawings. Check accuracy in terms of position, levels and square.

CONTINUED...

4. **CLEAR SITE:**
Remove vegetation, trees, roots and 150mm top soil* within area to be covered by the building, driveway, paths, terraces and steps. Do not remove any other trees without Owner's consent.
* Note: Alternatively with consent of Owner and Local Building Authority, leave topsoil in place where excavation would otherwise cause ponding under timber ground floors (see Clause 3.4.1 of NZS 3604). Deposit top soil in heap as directed and avoid covering with subsoil subsequently excavated.

5. **LEVELLING AND BULK EXCAVATION:**
Excavate for all site levelling, foundation walls and/or piles, underground services and subsoil drains etc. to correct levels, to firm bearing or to obtain sufficient frictional resistance* to satisfy Local Building Authority.
*** Note: Item 5 allows for driven timber piles to NZS 3605.**

6. **FOUNDATION TRENCHES:**
Take out trenches straight, level and to proper width and keep free of water and loose material. Concrete shall not be placed until excavations approved. If, other than under item 2 of this section, trenches are dug too deeply then such excess depth shall be filled with concrete, as specified for foundations, at the Contractor's expense.

7. **HARDFILL:**
Use only approved fill not less than 100mm thick and well compacted under concrete ground floors and wherein otherwise specified. Blind surface of fill with not less than 30 mm SAND

8. **SITE DRAINAGE:**
Take out land drainage trenches to adequate depth and falls to prevent dampness under the building. Provide for field tile drains (or perforated plastic drainage pipe) bedded on scoria. Back fill with clean graded scoria from 50mm to fine.

9. **HOUSEHOLD DRAINAGE:**
See Drainlayer Section.

10. **BACKFILL AND TOPSOIL:**
Backfill and well consolidate in 100mm layers to the foundation walls, pile footings and service trenches. Spread previously excavated top soil as directed. Do not damage any waterproof coatings or polythene protecting foundation walls from ground water entry.

CONCRETE AND REINFORCING

1. **PRELIMINARY AND GENERAL:**
Note all clauses under Preliminary and General of this specification which shall apply to this section of the work.

2. **EXTENT OF WORK:**
Comprises the setting out, boxing and placing of concrete in the foundations, floor slabs, walls, beams and bands and any other concrete work shown in the drawings.

3. **MATERIALS:**
Concrete which shall be ordinary grade and comply with requirements of NZS 3109 Builders mix may be used if agreed by Owner, providing the minimum crushing strength is 17.5MPa at 28 days standard cure is unaffected.

CONTINUED...

6. **JOINTS TO BLOCKWORK:**
All blockwork joints shall be neatly tooled with a 10mm rod jointer to form a neat concave recess to a good line, level and of consistent depth of approximately 6mm.

7. **WATERPROOFING:**
The Contractor shall ensure all blockwork above and below ground prevents the entry of water into the inside of the building. The Contractor shall provide warranties and prices for waterproofing from a number of manufacturers or their approved applicators and the type and price for the work shall be agreed. Internal strapping and lining as necessary to comply with insulation standards shall not proceed until evidence that the blockwork is free from leakage is demonstrated.

8. **WEEP HOLES:**
Provide weep holes in concrete blockwork at least 50mm below all bottom plates and below finished ground level, and below intermediate floor level, at approximately 800mm intervals. Drill or rake out weep holes to base of mortar bedding so as not to entrap any rain that might enter the walls.

BRICKLAYER

1. **PRELIMINARY AND GENERAL:**
Read and note all clauses under Preliminary and General of this specification where they apply to this trade.

2. **RELEVANT SPECIFICATIONS:**
All work shall be in accordance with the requirements of NZS 3604 and NZS 4229 as appropriate.

3. **MATERIALS:**
(a) Bricks: Bricks for external veneers and foundation walls shall be of the colour and type selected and shall comply with NZS 366 Clay Building Bricks Grade A or B. All fair face brickwork shall be laid with their best face outwards.
(b) Cement: Shall be ordinary Portland Cement and at the time of use shall comply with NZSS 3122 Portland Cement.
(c) Plasticizers: Plasticizers shall be used in accordance with the manufacturer's instructions and no other additives are to be used in conjunction with these materials. On no account will further additions be made at the time of retempering mortars.
(d) Water: Water shall be drinking quality.
(e) Sand for Mortars: Sand used shall be Mercer No. 1 sand and/or shall comply with the relevant clauses of NZSS 3103, Sands for Mortar, Plasters and External Renderings.

4. **PREPARATION OF MORTAR:**
Mortar shall be prepared by mixing in an approved mixer. Measurement of materials shall be by volume using suitable containers. Mortar shall be mixed until a homogenous mass is obtained but for not less than 5 minutes. All mortar whether on boards or left in the mixer shall be used within 90 minutes. Mortar not used in this time shall be discarded.

CONTINUED...

5. **BRICKLAYING:**

Bricks shall be laid in stretcher bond true to line level and plumb and in accordance with the best trade practice. All work shall be laid from the lowest corner and no corner shall be raised more than 900mm above wall line. Corners shall be racked back. On no account will toothing be permitted. All joints will be completely filled with mortar and the bricks shall be disturbed as little as possible after initial positioning. Joints shall, unless otherwise specified, be not more than 9.5mm thick and shall be tooled as directed as work proceeds. Where tapestry bricks are used care shall be taken to use a tool slightly smaller than joint width to prevent pushing mortar into the brick striations.

6. **BRICK FOUNDATION WALLS:**

Note where the following are shown on drawings and construct accordingly:-

(a) Reinforced clay brick masonry foundation walls not exceeding 2m in height, minimum width 130mm supporting single storey only; 190mm if supporting 2 storey or brick veneer and wall plate - all per NZS 3604.

(b) Reinforced clay brick masonry foundation walls exceeding 2m in height to be built by a "Registered Mason" to NZS 4229 or to Specific Design.

(c) Continuous single - wythe clay masonry foundation walls, supporting single storey only - strictly in accord with NZS 3604 with extra width of concrete beam and step detail for masonry veneer. Contractor to consult Owner on size and position of acess door.

7. **MASONRY VENEER:**

(a) Building Paper:

Run ordinary black bituminous breather type building paper to NZS 2295 (or fire resistant breather type) horizontally and well secure to outside face of framing from bearer to top plate. Repeair tears and holes before constructing veneer.

(b) Clay Brick Veneer:

Construct brick veneer with approved face fixed ties at correct spacings in accordance with Appendix F of NZS 3604 and with materials and workmanship to NZS 4210 P.

A cavity of not less than 40mm and not more than 75mm shall be maintained between building paper and veneer. Where necessary weep holes shall be left every third joint for the discharge of water, as under Concrete Blocklayer. Keep the cavity and upstand clean, free from mortar protrusions and droppings. Keep pipes or electrical wire, junction boxes etc. out of the cavity. Build in the required number of sub-floor vents to provide not less than 3500mm^2 of ventilation per 1m^2 of floor area. Keep top of vents below bottom of bearers. Thoroughly clean down the face of work on completion and leave free of mortar stains and efflorescence.

(c) Vermin Proofing:

Secure galvanised wire mesh to bottom plates, slope downwards and across cavity and embed each length of mesh at least 25mm in mortar joints. Vermin proof dividing wall and wherever else necessary.

(d) Sills:

Sills to be brick on edge, brought to underside of wooden sills or aluminium joinery. Junction between to be filled with a suitable sealant as recommended by the Joinery Manufacturer and overpointed with cement mortar.

CONTINUED...

(e) Split Stone or Concrete Block Veneer:
Cement composite bricks for external veneer and foundation walls shall be .....

.....

of the colour and type selected and shall be manufactured in accordance with NZS 3102 "Specification for Concrete Masonry Units". Construction shall accord with all earlier relevant clauses of this section.

8. **CHIMNEY:**
Chimney to be brick to Owner's preference. All reinforced to Territorial Authority requirements. Cast in C.I. tip grate to floor of hearth. Construct fireplace with jambs in 230mm work. Line with firebrick, with slanting sides and a tilted back giving a 75mm max. throat opening, finished 150mm above soffit of fireplace opening. Fill behind tilted back with mortar, with concave finish to top. Gather brickwork into flue liner and parge brickwork. Cast concrete lintel with 100mm bearing, reinforced with two 12mm diameter rods tied with 4mm wire at 150mm centres. Slope back face of lintel into throat. Construct flue with internal dimensions of 300mm x 300mm and build in 230mm diameter earthenware flue liner for full height, wrapped with heavy quality building paper.

FIREFRONT AND HEARTH:
Allow the P.C. Sum of $..... for selected firefront and hearth.

CARPENTER AND JOINER

1. **PRELIMINARY AND GENERAL:**
Read and note all clauses of the Preliminary and General which apply to all works of this section.

2. **EXTENT OF WORK:**
The work of this section shall include all labour, materials, equipment necessary to carry out and complete the carpentry as shown, or as further required by this specification. Together with any other items of work reasonably inferred as part of this section.

3. **ATTENDANCE AND PROTECTION:**
Attend upon all other trades providing all blockings, fixings, trims, nogging as necessary for the full completion of their respective works and make good after all trades.

4. **MATERIALS AND WORKMANSHIP:**
All material used shall be the best of their respective class and type specified. Any materials which in the opinion of the Owner, Loan Body or Territorial Authority are not up to standard, to be removed immediately from the site. All work shall be carried out in a workmanlike manner in accordance with best trade practice and as or where especially specified. Any work that is intended or implied but not specifically shown, mentioned or specified as necessary for the proper completion of the building shall be included. All work shall comply with the relevant NZS requirements, particularly NZS 3604.

5. **TIMBER:**
All timber used shall conform to NZS 3602 requirements, "Code of practice for specifying time and wood-based products for use in building". Timbers shown in the Schedule of Timbers to be treated with an approved preservative process in plants licensed by the Timber Preservation Authority.

6. **DAMP ROOFING:**
All timber to be protected from dampness with 3-ply bituminous felt or other approved damp proofing material when in contact with concrete or brickwork, except as provided for under clause 2.1.4 of NZS 3604.

7. **PRIMING:**
All exterior finishing timber, all timbers in contact with concrete blockwork and all external faces, rebate, etc. of all doors, windows, frames and all woodwork of sashes, shall be primed before fixing unless otherwise specified in Painter.

8. **CLEANING:**
The Contractor at the conclusion of the Contract shall have all ceilings, walls and woodwork carefully dusted and wiped down. Windows washed and glass free from scratches and paint. Floors brushed and the entire building and site left in a clean condition for occupation.

9. **FASTENING AND FABRICATION:**
(a) The Contractor should especially note that all aspects of fastening and fabrication of timber framing members and wood-based products on this Contract shall accord with the following clauses of NZS 3604:-
Clause 2.5.1 - General
Clause 2.5.2 - Adhesives for timber & wood-based products
Clause 2.5.3 - AND APPENDIX A - for nailing and use of wire dogs
Clause 2.5.4 - for bolting and screwing.

CONTINUED...

(b) Reference shall also be made to Appendix A of NZS 3604 for the proper fixing of sheet lining and cladding materials for walls and ceilings that are not wood-based, eg: Gibraltar board, fibrous plaster or wood cellulose sheeting; especially where such materials are used as diaphragms and for wall bracing.

(c) Mild steel structural components used in sub-floor spaces, exposed to the whether or in position where condensation or dampness will occur shall be hot dipped galvanised after forming and shall provide the necessary "capacities" called for by NZS 3604 dependent on function and location.

(d) In all other cases, select and use connectors according to manufacturer's literature conforming to NZS 3604 requirements.

10. **INSULATION:**

All roofs, walls and floors are to be insulated in accordance with NZS 1900 Ch.4, NZS 4214 and NZS 4218 P. No insulation material shall be used that does not comply with NZS 4222. All insulation materials are to be installed in accordance with manufacturer's recommendations.

11. **MOISTURE CONTROL:**

Where a vapour barrier is required in the form of foil or polythene film, this barrier shall be fixed according to manufacturer's instructions. Foil or polythene film shall not be used as a substitute for building paper. Building paper shall be properly fixed to bottom plates, especially in veneer construction, to prevent entry of sub-floor air into stud cavities. Brick veneer cavities shall be closed off at and by means of soffits so as not to connect with roof cavities. There should be no unsealed openings for service pipes and wiring, etc. There should be no discharge from cooking extractors or clothes dryers into any wall, roof or floor cavity. Linings shall not be fixed until moisture content of framing has been tested and approved.
A proper solvent based paint or varnish finish must be used for plasterboard (Gibraltar board or fibrous plaster) linings to 'wet' rooms such as kitchens, bathrooms and laundry.

Water based emulsion paints must not be used.

IMPORTANT NOTE: A very valuable book entitled "The Healthy House Book", a guide to ventilation, heat and insulation in New Zealand homes can be purchased from the Building Centre.

TIMBER SCHEDULE COMMENCES PAGE NO.12

SCHEDULE OF TIMBERS (For Guides Only)

LOCATION	SIZE mm x mm	GRADE AND TREATMENT For alternatives refer to NZS 3602	REMARKS
SUBFLOOR FRAMING		ALL subfloor framing No. 1 Radiata Pine* Pressure Treated to Commodity Specification H3 of T.P.A. Specification e.g. Tanalith or similar	
Wall Plates	100 x 50		Bolted or dowelled
	min 75 x 50		For 75mm wide studs only.
Bearers surpporting jackstuds on piles	100 x100		Can be 2/100 x 50's, or 2/150x50's as shown
	min 100 x 75		
Subfloor jackstuds	min 100 x 75		At 600 c/cs
Stud in subfloor wall	min 100 x 50		Refer 3604
PILES	min 125 x125	H5	
Ditto where doubled under bearer	2/100 x 50		
Top plate to jackstuds or subfloor wall	100 x 50		
Bearers on jackstuds or timber stud subfloor wall	100 x100		
Stringer to side of foundation wall	125 x 50		Fixed with M12 bolts at 1M spacing for single story only.
Subfloor braces	min 100 x 75		Not exceeding 3M Fixed with M12 bolts (or appropriate nail plates).
GROUND FLOOR FRAMING			
Floor joists for max.1.5 KPa loading	150 x 50)	Treated No. 1 Radiata Pine to H1 of T.P.A. Specification e.g. Tanalith or Boron Type treatments.	600 c/cs. Up to 2.6m Max. span where continuous over 2 or more spans.See plan for other sizes and spans. (Along subfloor bracing lines, at right angles to joists and mid point or any span exceeding 2.5M and under load bearing walls). At outer ends of floor joists.
Herringbone strutting	40 x 40)		
Solid Blocking	150 x 50)		
Boundary joists	150 x 25		
FLOOR DECKING			
Refer to plans for type and location.			
a) Hardwood	or 100 x 30	Kwila.	Dry dressed
B) Particle Board	2400 x 1200 x 20 or 3600x1800x20	High Density / Superfloor for wet areas	Joins between sheets made over supports or on 50 x 50mm blocking between joists.
WALL FRAMING			
Bottom Plates	100 x 50	No. 1 treated Radiata Pine	Long lengths
	min 75 x 50		

CONTINUED..

LOCATION	SIZE mm x mm	GRADE AND TREATMENT For alternatives refer to NZS 3602	REMARKS
WALL FRAMING - continued			
Studs	100 x 50	No. 1 or No. 2 or Building Radiata Pine	
	75 x 50	as appropriate Treated	600 c/cs
Top plates	100 x 50	PLUS 150 x 40 All No. 1 Treated	Where supported upper floors, heavy roofs
	100 x 50	Radiata Pine	and where ceiling battens necessary
	75 x 50		
Trimming studs*	100 x 50	Treated No. 1 Radiata Pine	Up to max 3m span of lintel in single storey,
	100 x 75	Where reqd.	top storey or non load brg. wall only.
*See Remarks column for greater spans or in other locations refer to Table 15 of NZS 3604 and use doubling studs as necessary.			
Lintels (generally) dependent on span	2/100 x 50 up to 2/300 x 50	Treated No. 1 Radiata Pine	Select built-up lintels from Table 16 NZS 3604 or GANGLAM SPEC'N.
Sill and Head		Treated No. 1 Radiata Pine	
Trimmers	same span as studs, thickness per span as follows;		Head trimmers shall be used instead of lintels only in non load bearing walls.
Span 2M.....40mm			
2.4M.....50			
3M.....75			
3.6M.....100 or (2/50mm)			
Dwangs (or noggings)	50 x 50	Treated No. 1 Radiata Pine	Min 2 rows for 2.4 high studs except where
	75 x 40		a greater or lesser number indicated by lining or cladding manufacturer.
Bracing	100 x 25	Treated No. 1 Radiata Pine	(Continuous let-in brace)
(No dog legs permitted)	75 x 40	Treated No. 1 Radiata Pine	(Cut between braces in diagonally opposing pairs).
			(Delete both above if using continuous steel strip or steel angle).
POSTS	mm 100x100	H4/H5	

ROOF FRAMING: To pitch and style shown on plan Note 1) Individual requirements and options permissible under NZS 3604 preclude meaningful scheduling here. Designer and Builder shall refer to NZS 3604 and dimension drawings to satisfaction of Territorial Building Authority. 2) All timbers as relevant in (a) (b) or (c) below shall be treated No. 1 Radiata Pine or shall be Douglas Fir. Exposed ends of Douglas Fir rafters in Type c roofs shall be capped.

(a) Trusses - To approved size and dimensions as shown on plans and manufactured by.....

or

(b) Framed (couple-close) Roofs

or

(c) Monopitch, skillion and exposed rafter roofs) as fully detailed on drawings in accord with NZS 3604. NOTE. Purlins (roof battens) on edge or on flat shall be sufficient to accomodate the thickness of thermal insulation material necessary to comply with by-laws, advise and agree with owner.

CONTINUED...

LOCATION	SIZE mm x mm	GRADE AND TREATMENT For alternatives refer to NZS 3602	REMARKS
ROOF BRACES			
Roof space braces	min 100 x 50)	Treated No. 1 Radiata Pine	(Alternative - specify opposing pairs of continuous steel strip braces instead of 100 x 25 roof plane braces).
Roof plane braces	100 x 25)		
Ceiling plane braces	100 x 50)		
ROOF SARKING			
Hit and Miss diagonal sarking	75 x 25	Treated No. 1 Radiata Pine or Douglas Fir.	60 degrees to ridge, if used delete roof plane braces above.
Sheet Sarking (e.g. 6mm plywood or 6mm particle board)			Again, omit roof plane braces
ROOF TILE BATTENS (or purlins)	75 x 50	Treated No. 1 Radiata Pine or Douglas Fir.	Light roof, on flat at 900 c/cs.
	75 x 50		Heavy Roof, on edge at 900 c/cs.
Dragon Ties	100 x 40	Treated No. 1 Radiata Pine	As required.
Eaves Framing	75 x 40	Treated No. 1 Radiata Pine	
Barge & Eaves Boards	150 x 25	Treated No. 1 Radiata Pine	
	up to 225 x 25		
Ceiling Battens	75 x 40		or as required by manufacturer of ceiling lining.

WEATHERBOARD: Dressin A Heart Rimu or Treated A Rimu or Matai or imported Cedar.
Horizontal or Vertical Finishing Grade. Weatherside or Hardiplanks. (Delete that which is not applicable).

INTERNAL DOORS			
Jambs		25mm	(Dressing A Rimu
Architraves	40/60	75 x 12mm	(
Skirtings	40/60	75 x 12mm	(or by agreement
Sill Boards		25mm	(
Aprons		25mm	(
Window Jambs		150 x 40mm	D.A.H. Rimu
Window Sills		150 x 65mm	D.A.H. Rimu or Matai or Cedar
Mullions		75 x 65mm	D.A.H. Rimu or Matai or Cedar
Cornices		40mm	D.A.H. Rimu or Matai or Cedar
Facings ext.		75 x 25mm	D.A.H. Rimu or Matai or Cedar
Door Sills		150 or 200 x 65mm	with 12mm Steel Weather Bar.
Scribers		50 x 12mm	Totara or Heart Rimu

12. **SUB-FLOOR FRAMING:**

(a) Driven Timber Piles shall be included in this section of the work and all driving, testing, sizes and spacing of piles shall accord with Appendices C & D of NZS 3604 and drawings.

(b) Bearers shall be 100mm x 100mm, supported at 1.3m centres along length and spacing between bearers to be max. 2.5m except where spacing and size of joists and bearers are shown differently in plan. Jack studs to be securely fixed to foundation piles and wall plates or bearers as shown. Brace with 100mm x 75mm as required. Floor Joists shall be gauged over plates to uniform levels. Joists shall be 150mm x 50mm. Laps not less than 150mm spiked. Nail plates may be used in place of lapping. Provide double joists under all load bearing walls.

(c) Plates shall be 100mm x 50mm dowelled or bolted to foundation walls.

13. **GENERAL FRAMING:**

All framing to be 100mm x 50mm stud or 75mm x 50mm stud with 50mm wide studs to all openings not exceeding 3m span where supporting only one storey. Top and bottom plates to be same size as studs in long lengths, halved or nail plated at wall junctions and jointed over studs. All studs at 600mm c.c. Provide two (2) rows of dwangs to full height each wall unless otherwise stated on drawings.

14. **WALL BRACING:**

Provide all wall bracing as shown on drawings and wall bracing calculation sheets as is intended to satisfy the Territorial Building Authority. Keep strictly to the "Type", Lengths and Locations shown on plan and elevations.

15. **WALL LININGS:**

Generally shall be of 9.5mm Gibraltar Board and shall be fixed to external walls only after placement of thermal insulation (bulk insulants). (Specify if different, ie: if using Winstone Ltd Specific Thermal Design or Aqualine or Hardi Villa Board in wet areas. . All nailed or fixed as per Appendix A of NZS 3604 or manufacturer's instructions and stopped to manufacturer's instructions; in particular where contributing to wall bracing.

16. **ROOF CONSTRUCTION: (See Drawings and Schedule of Timbers for types)**

(a) Trussed Roofs: Drawings showing clearly the type, pitch, span, spacing and overhangs of roof trusses and details of roof cladding shall be provided to the truss manufacturer ..... to allow him to comply with clause 10.2.3 of NZS 3604. Thereafter, the Contractor shall match construction with the drawings and details provided by the truss manufacturer throughout all stages of fixing and bracing. The Contractor shall especially accord with the manufacturer's instructions for tying down where overhangs exceed 750mm. In all cases anchorage of all trusses to plates shall be with not less than 2/100mm skew nails plus 2/4.9mm wire dogs.

(b) Framed Roofs: Roof to be framed up to pitch indicated on plans and to detail property checked, bird mouthed and well fixed. Fix valley board, ridge etc. Fix both underpurlins and collar ties where shown and where rafters exceed 10 degrees pitch. Collar ties are to be at 1.8m centres or to every 3rd set of rafters whichever is the closer.

Ceiling joists to be generally 100mm x 50mm spaced as required (refer to Plan) and to be well spiked to all plates. Provide adequate ceiling runners to spans of 2400mm and over.

(c) Monopitch, skillion and exposed rafter roofs: Construct as drawings in accord with NZS 3604.

17. **PURLINS, EAVES, GABLE ENDS:**

Size of framing, spacing, overhangs and sheathing type as shown on plan.

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18. **FASCIA BOARDS, ETC:**
Fix fascia, barge, frieze, etc. to suit roofing selected (See ROOFING CONTRACTOR).

19. **POST AND BEAMS:**
Where within maximum permitted by NZS 3604 secure in equivalent manner and with equivalent materials as in Clauses 7.1, 7.2 and 7.3 thereof. Owner to provide "specific design" for all other posts and beams and Contractor to fix as per details given.

20. **FLOORING:**
Timber joisted ground floors shall be insulated with ..... (brand) type perforated aluminium foil carefully laid, lapped and drooped 100mm between joists and stapled on top side, all per manufacturer's instructions before laying flooring.

(a) Particle Board Flooring shall be 20mm High Density. All aspects of handling, storage, sheet layout and fixing shall be to manufacturer's recommendations.
Nailing or stapling of pre-laid particle board floorings shall be done in two (2) stages to reduce the risk of floors squeaking. First secure at perimeter of floor, along the bottom plate positions for internal walls and sufficient elsewhere to hold the sheets flat during construction. Complete remainder of fixing to manufacturer's specification after the house has been totally "closed-in" and just prior to sanding. The Contractor shall be responsible for any damage done and for cost of repair or replacement of the flooring if not closed-in sufficiently early (normally within 2 months of laying), or if the floor is not otherwise adequately protected up to completion of the house.
Heads of fixings shall be punched to allow a reasonable depth of stopping, unless otherwise stated.
Ceilings below particle board (or any other flooring) shall not be secured until all nailing or stapling above has been done.
OWNER TO SPECIFY ANY ALTERNATIVES TO 20 (a) eg:-
(i) Particle board, laid only after closing in
(ii) Tongue & Grooved (T & G) flooring, with or without secret nailing
(iii) Glue laminated timber flooring
(iv) As (ii) and (iii) above, but also forming ceiling to a room or number of rooms below.

(b) Finishing of Particle Board Flooring
Contractor to follow manufacturer's recommendations and sequence in sanding, sealing, stopping and application of coatings to provide a minimum 3 coat flat, smooth hard wearing polyurethane finish. Contractor should also follow manufacturer's recommendations for floor areas to be covered with vinyl flooring or carpeting as advised by Owner and such finish of the particle board to be approved before either is laid.

OWNER TO AMEND 20 (b) if wishing to undertake all or part of finishing personally.

21. **TIMBER TERRACES:**
If shown on plan, construct to detail or best trade practice. All nail fixing with galvanised nails, all bolt fixing with galvanised bolts, all timber to be treated to the correct preservative retention as specified by the Timber Preservation Authority.

22. **EXTERIOR WALL COVERINGS:**
(a) Breather type building paper and masonry veneer shown on drawings shall be as given under "BRICKLAYER".
NOTE 1. Other exterior wall covering shown on the drawings and mentioned in Section 8 of the NZS 3604 should be fixed in accordance with all requirements therefore. It is important to appreciate that reference is made to NZS 3602 wherein advice is given on width of timber weatherboard and finishing. Should the Owner specify overwide boards and any finish other than paint and not adequately maintain, the responsibility for any resultant poor performance should not be apportioned to the "Contractor".

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NOTE 2. Reference is made to wood cellulose flat sheets in NZS 3604 and should be taken to include such sheets that can be purchased with various finishes already applied, eg: aggregate finish or imitation stone work and brick work finishes, as well as where sheets are used as a base for insitu finishes.

(b) Other exterior wall coverings shown on the drawings shall be.....
fixed in accord with .....
and finished with .....

23. **EXTERIOR JOINERY:**
All windows shall be to NZS 4211 to suit location.

(a) Aluminium Joinery
Provide P.C. sum of $..... for windows and glazed doors to size, type and location shown on plan. Obtain joinery from .....,
complete with glazing, frictional restraints and catches, and fix plumb both ways and in correct alignment and flash all in accord with manufacturer's instructions. Sliding patio doors shall be safety glazed and fixed to timber sub-frames as per Code. NOTE: Owner should check with manufacturer regarding manner or type of safety glazing (also in shower screens). Also seek advice on satisfying the need for simple secure means of maintaining a little ventilation at night or when house is empty. Options can include substituting double spur catches for single, fixing security fasteners or provision of small sliding planes, or louvre or grill at high level.

(b) Timber Joinery
Unless otherwise specified sashes and frames shall be of finger-jointed radiata pine treated to the requirements of NZS MP3640, primed before leaving the factory, and to sizes and type shown on plan. Fix window frames plumb both ways to wall framing at not more than 750mm intervals with full width folding wedges, or to heart Totara dovetailed grounds in masonry walls. Cut all facings and scribers to fit neatly and fix quadrant under external sills. Provide and fix standard galvanized steel flashings unless otherwise specified.
Hang all sashes as required with suitable hinges or frictional restraints and fix stays and catches as supplied under P.C. sum (see Hardware).

24. **DOORS AND FRAMES (TIMBER):**
External door frames shall be of 40mm full width material rebate and internal shall be 30mm rebated or 25mm (or 18mm) material with 12mm planted stops. Doors shall comply with NZSS 1158, where external shall be framed, ledged and braced or timber or glass panel as shown on drawings, all properly constructed with stiles and rails out of 50mm material. Internal doors shall not be under 30mm hollow-core faced with plywood or hardboard with clashing strips fixed to lock stiles. All timber core material shall be treated and doors shall be of approved manufacture. Doors over 1400mm in height shall be hung on one and one half pairs of 90mm x 30mm antique butt hinges.

25. **CEILINGS:**
(a) Gibraltar Board: Fix painting quality 9.5mm Gibraltar board to joists and rafters with 30mm galvanised gib clouts, with nails punched and stopped and all joints flushed up to a true even smooth surface. In particular fix all ceilings serving as structural ceiling diaphragms under terms of NZS 3604. (See Winstone Wallboards Ltd taped joint system). Check that each wall under or connected to has adequate bracing for a diaphragm.

(b) Pinex: First quality tiles or planks as directed by Owner to be fixed to manufacturer's specification. In particular note where dragon ties have been specified on drawings and refer to NZS 3604 for their proper fixing. Also check that each wall relative to the dragon ties have the prescribed bracing values.

(c) Fibrous plaster: (See Fibrous Plaster Section).

26. **MANHOLE:**
Provide manhole in ceiling 500mm x 500mm where directed.

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* 27. **WARDROBES:**
To be lined full height. Provide inside each with 300mm x 25mm full width shelf at 1.7m from floor and 20mm galvanised pipe coat rail at 75mm below shelf. Provide cupboards over wardrobe where required.

* 28. **KITCHEN CUPBOARDS:**
Construct cupboards and pantry unit to sizes shown on plans, with doors and shelves to Owner's approval.

29. **SINK TOP:**
Provide for standard sink top. Unit to have standard 450mm x 300mm stainless steel sink. Fix on unit either indicated on plan or to Owner's final approval. Units to be generally 900mm high and 500mm in depth, 100mm toe space. Provide flush cupboard doors to front and shelving to approval. Timber used in doors to be approved by Owner.

* 30. **HOT WATER CUPBOARD:**
To be constructed where shown and fitted with slat shelving above the cylinder spaced at 15mm apart. Provide two flush doors with thermostat boxed in.

31. **ARCHITRAVES, SKIRTINGS, ETC:**
Finish all windows internally, door openings and wherever required with 40mm x 12mm rounded or splayed architraves, or as otherwise specified..... Finish at junction of floor and wall with 60mm x 12mm or 40mm x 12mm, with ends neatly butted, scribed or mitred. Scribe to floor where necessary. Where required fix scotia mould at ceiling junction, supply and fix beads, half rounds and all trim as required to complete the work.

* 32. **BATHROOM: ENSUITE: SHOWER AREAS:**
Provide and fix in bathroom one toilet cabinet 550mm x 400mm recessed into wall with mirrored door. Bath to be built in and supported with 75mm x 50mm framing on edge. Fix bath panels as agreed by Owner. Allow for toe space. All wall linings to be fixed to manufacturer's specification with adequate capillary gaps or flashings/trim or sealant to prevent leakage. Provide for all sanitary fittings shown on plan and given under "Plumber".

* 33. **LAUNDRY AND TOILET/S:**
Fit out as shown on plan and given under "Plumber".

34. **METER RECESS:**
Provide recess for Electric Meter Board where directed to the satisfaction of the Local Electric Supply Authority.

35. **HARDWARE:**
Allow the P.C. sum of $..... for the supply of all hardware required. Door handles, locks, window fittings, door and drawer pulls, stops, angles, vents, towel rails, etc. Allow to take delivery and fix. The supply of hinges and butts for all doors and windows is not included in the P.C. sum.

36. **INTERNAL WOOD STAIRS:**
Consult with Owner on construction of internal wooden stairs.

* **IMPORTANT NOTE:**
For Clauses 27, 28, 30, 32 and 33. Allow for door of full height and full width access to wardrobes, pantries, linen cupboards, etc. Then consider provision of adjustable shelving, draw and basket fittings as budget allows. This will minimise further alteration.

ROOFING CONTRACTOR

1. **PRELIMINARY AND GENERAL:**
Read and note all clauses under Prelminary and General of this specification where they apply to this trade. (Also see Plumber).

2. **ROOF FRAMING AND WALLS:**
Roof framing shall provide adequate support and fixings for purlins (roofing battens). No member shall be overloaded by landing heavy, localised, stacks of cladding on them prior to fixing, and temporary braces as might be necessary, shall be provided in walls below to sustain such loading until roof cladding is complete and wall lining subsequently fixed.
In roof types (B) and (C) of timber schedule, the size of purlins if not shown or stated shall be such as to accommodate the required thickness of thermal insulation to comply with the bylaws; advise and agree with Owner.

3. **ROOFING UNDERLAY:**
Underlay shall be breather type building paper to NZS 2295. Run horizontally with upper sheets lapped 75mm over lower sheets and with bottom edges turned over fascia into gutters. Such underlay shall be provided under all metal roofs and be adequately supported unless self-supporting type.
Where other roof claddings are specified and where at less than 12.5 degree pitch undertake all work in accord with a method approved in writing from the cladding manufacturer for the particular job.

4. **PREPARATORY WORK:**
Provide all gutters, valleys and underflashings before cladding commences. Except where stated, valleys shall be of 0.6mm galvanised steel at least 400mm wide with folded edges and with lower end finishing well into spouting. Use 0.7mm aluminium valley for aluminium roofing. For profiled metal roofing set out purlins to give reduced span at eaves and between top purlin and ridge as recommended. For tiled roofs provide anti-ponding boards at eaves as shown to support building paper. Allow tiles to adequately project into spouting and set out so that when laid there is full height course of tiles both at eaves and ridge.
Ensure all edges of roof cladding are adequately supported around projections such as pipes, ducting and roof lights.

5. **SARKING TO ROOFS, DECK AND GUTTERS:**
Profiled metal roofing shall not be laid at less than 5 degree pitch except where shown and only when adequately supported by hit-and-miss type sarking or full sheet sarking so as to prevent ponding.
Sarking for roofs, decks and gutters that are to be covered by Nuralite or Butynol shall be of material and fixed in a manner approved by the manufacturer.

6. **ROOF CLADDING MATERIALS AND COMPONENTS:**
Roof cladding shall be .....
(nominated colour and type), manufactured by .....
Materials selected shall be set out and fixed by approved FIXERS and shall accord with the manufacturer's specification and in all cases with NZS Specifications or others where appropriate, ie:-

NZS 3403: 1978 Hot-dipped galvanised corrugated steel sheets for building purposes
NZS 3441: 1978 Hot-dipped zinc-coil steel coil and cut lengths
NZS 4206: 1973 Concrete interlocking roofing tiles
NZS 4217: 1980 Pressed Metal Tile Roofs
BS 4300/6: 1969 NS31 sheet and strip (Part 6 is one of a series covering wrought aluminium and aluminium alloys).

CONTINUED...

Thickness of material unless otherwise specified shall not be less than the following:-

Aluminium cladding, valleys and flashings	0.7mm
Galvanised steel cladding, spouting, downpipes and overflows	0.6mm
Copper flashings, gutters and sumps	0.6mm
Lead flashings to small diameter vent pipe with PVC flashing cone	1.7mm
Other lead flashings and soakers	2mm

7. **UNPAINTED GALVANISED STEEL ROOFING:**
Areas which are inaccessible for maintenance such as laps in the roofing cladding and between cladding and metal flashings and cappings shall be primed and top coated on both surfaces before fixing.

8. **FACTORY PREFINISHED MATERIAL:**
Treat all such material with great care and obtain matching colour for making good minor damage and covering fixings made through the face of the claddings.

9. **CAPPINGS AND OVERFLASHINGS (ALSO SEE PLUMBER):**
Adequately and neatly secure all ridgings, cappings and overflashings wherever needed to make and keep roof watertight. As much as possible use only material compatible with the roof cladding. If dissimilar metals are used keep from making contact.
Sealants shall not be used except where approved. Remove all traces of flux after welding, soldering or brazing. Do not leave swarf, broken rivets, screws, nails or waste metal on roof, nor in gutters or spouting.

10. **BIRD PROOFING:**
Where indicated bird proof eaves with purpose-made foam plastic impregnated with bitumen.

11. **SPOUTING AND DOWNPIPES - SEE PLUMBER**

12. **GUARANTEES:**
On completion of all roofing thoroughly clean down and furnish Owner with written guarantees to watertightness and security of the roof cladding. Guarantees to be signed by the approved FIXER/FIXERS and run for a period of three (3) years from the date of completion of the building contract.

PLUMBER

1. **PRELIMINARY AND GENERAL:**
Read and note all clauses in the Preliminary and General of this specification which shall apply to all work in this section. (ALSO SEE ROOFING CONTRACTOR)

2. **GENERAL:**
Inclusion of roof flashings, provision of roof drainage and other general flashing requirements in this section shall mean that all shall be of the quality expected of work customarily done by plumbers. The foregoing shall apply whether or not the ROOFING CONTRACTOR employs a plumber to execute or supervise, or if the builder himself fixes flashings to windows and external doors. All other work shall conform to the requirements of the Territorial Authority under Model General Bylaw NZS 9201: Chapter 7: "Water Supply" and Drainage and Plumbing Regulations 1978.

▶▶ No connections to sanitary fittings or main shall be made except by a Registered Plumber. Plumber shall arrange all permits, connection and testing fees.

3. **FLASHINGS:**
Wherever possible use flashings that are readily available but purpose-made by the roof cladding manufacturer to suit the roofing material and profile selected. Otherwise provide flashings as recommended but not supplied by cladding manufacturer and adequately secure. Flash wherever needed to make and keep roof watertight. Prime and topcoat both surfaces at laps with galvanised steel.
Flashings to each window head and door shall be provided in one piece, each 150mm longer than the head it is to protect.

4. **SPOUTING AND DOWNPIPES:**
Spouting shall be that manufactured by the roof cladding manufacturer, or standard 125mm guadrant type galvanised steel, or approved white PVC. Provide and fix as recommended with even fall to downpipes. Provide all necessary stopped ends, mitred returns and outlets and ensure all joints in metal spouting are adequately soldered or welded, or for PVC are made with solvent cement except where joints provide for thermal movement. Connect outlets to 80mm diameter downpipes. Avoid high local discharge from high roof to low roof by use of a spreader pipe. Provide sufficient number of downpipes to service roof areas.

▶▶ Discharge stormwater into soakaways or street channel, NOT into foulwater drainage system UNLESS permitted by Territorial Authority.

NOTES AND ASSUMPTIONS RELEVANT TO FOLLOWING CLAUSES 5 - 10

IMPORTANT

Very careful consideration needs to be given to the design of household plumbing and selection from a wide range of materials nowadays available in supply pipe for both hot and cold water services; and from a similarly wide range of materials for sanitary fittings and waste pipes from them. Every effort should be made to consult with manufacturers and plumbers BEFORE completing this specification in order to attain plumbing to suit individual circumstances. Territorial Authority plumbing inspectors can advise on such matters as water pressure and volume obtainable from mains and materials approved. The following is offered for guidance to help in the completion of the plumbing specification similar to the clauses given but other clauses might also be necessary if choice differs from the assumptions made.

(a) Cold water can be obtained from a Territorial Authority mains normally providing adequate water pressure and volume; so avoiding the need for a cold water supply tank in or on the roof.

▶▶ (b) Water heating is to be mainly by means of a low-pressure thermal storage electric water heater; with cold water feed into Hot Water Cylinder through a pressure-reducing valve and separate non-return valve. Alternatives include:-

CONTINUED...

B1. Use of a break-pressure tank installed above the Hot Water Cylinder OR
B2. A mains pressure water heater; with check valve (gate valve) between the two (2) stop valves OR
B3. Provision for gas water heater or heaters OR
B4. Provision for a wet-back, eg: from free-standing fireplace or stove, or solar water heating; supplementary to main method of water heating OR
B5. Water heating for space (room) heating as well as serving sanitary fittings.

▶▶ **(c)** Proximity of sanitary fittings to Hot Water Cylinder will normally be in order of most frequent use, eg: kitchen sink, bath or lavatory basin, bath/shower, tub and washing machine.

▶▶ **(d)** Cold and hot water supply to ALL fittings is assumed to be by 12mm nominal bore pipes with temperature-compensating mixer valve to shower to reduce severe temperature changes when taps are turned on or off elsewhere in house. This practice is now common in many areas having reasonable water pressure. Check if permitted and satisfactory in your area and discuss alternative methods of reducing shower temperature fluctuations (by pipe sizing and positioning) with plumber.

5. **COLD WATER SUPPLY:**

● ▶ Tap off from mains service pipe in . . . . . mm COPPER/POLYBUTYLENE/UPVC/or TYPE 3 or TYPE 5 POLYETHYLENE (Polythene). Run pipe not less than 450mm below finished ground level to the house with entry through or under the wall foundation. Supply and fix a water meter, box and cover when required by Territorial Authority.

Provide . . . . . mm . . . . . pipe to hose taps at front and rear of building and to all fittings including hot water cylinder and washing machine. All branches to be as short, straight and at as even gradient as possible with easybends used throughout (NOT ELBOW FITTINGS). Use only approved connections throughout. All pipes are to be adequately supported, well secured and where possible concealed.

When using any form of plastic piping, plumber to discuss and provide means of ELECTRICAL EARTHING with electrician.

6. **HOT WATER SUPPLY:**

Supply one (1) pressure electrical hot-water cylinder of . . . . . litre capacity of approved make and type and install and connect all pipes to the approval of the Territorial Authority. Provide . 20 . . mm COPPER hot water supply pipes and branches to all fittings including washing machine.

7. **SANITARY FITTINGS, ETC:**

● ▶▶ Provide P.C. sum of $..... for the following. Carefully note dimensions and install where shown on plan and to Owner's approval. (Specification should preferably include the number of each required size, brand, colour, material, and where necessary height).

..... Bath/s mm x mm ....
Vitreous China/Porcelain enamelled pressed steel/acrylic

..... WC/s ....
Vitreous China complete with ..... double flap plastic seat

..... WC Cistern/s ....
PVC complete with ..... PVC flush pipe or chrome plated flush pipe

..... Basin/s (on wall brackets) (on pedastal) (or in vanity)
..... mm x ..... mm
Vitreous China/Porcelain Enamel/Acrylic

..... Shower tray/s (or Shub Tub) ....
Stainless Steel/Porcelain Enamel/Acrylic/GRP

CONTINUED...

SANITARY FITTINGS (Continued)

..... Bidet ....
Vitreous China

..... Sink/s and top ..... with single or double drainer
As per plan with laminated top/stainless steel/or tiled or mosaic top. Height ..... mm

..... Laundry tub ..... mm x ..... mm single or twin tub combination.
Stainless Steel/Porcelain enamelled, on stand, with cupboard below. Height ..... mm

8. **TAPS, FAUCETS AND VALVES:**
Consult with Owner on choice of brands and fixing of all taps, faucets and mixing valves. Provide and fix all other water supply fittings as necessary.

9. **WASTES AND VENTS:**
Provide all necessary taps, waste pipes, soil stacks, back vents and terminal vents. Provide cleaning eyes to all waste pipe at junctions and all necessary overflow pipes.

10. **OTHER MEANS OF HEATING WATER:**
Consult with Owner on choice and fitting of free standing fireplace with wet-back/or stove with wet-back/ or solar water heating panels to supplement hot water heating system.

DRAINLAYER

1. **PRELIMINARY AND GENERAL:**
Read and note all clauses under Prelminary and General of this contract where they apply to this trade.

2. **EXTENT OF WORK:**
Work in this section of the contract comprises all surface and foul water drainage up to above ground level to connect to Plumber's work. Incldue all pipes and specials, fittings, construction of manholes, all gully traps and connections for terminal vents, soil and waste pipes. The Drainlayer shall confer with the Plumber and shall arrange with the Contractor before the foundations are laid to fix the exact position of all connections of wastes and drains.

3. **STANDARD OF WORK:**
The whole of this work shall be carried out by experienced tradesmen to the satisfaction of the Owner and the Territorial Authority. It shall conform to requirements of the Drainage and Plumbing Regulations of 1978 and the Local Council Specification, the Contractor shall allow accordingly should conflict exist. Obtain all permits, service all notices and pay all fees required and arrange for all tests.

4. **MATERIALS:**
All materials shall be the best of their respective kinds. All cast iron pipes shall be free from rust and be of first quality and of even wall thickness and shall be hot-dipped. Those for the use in foul drains shall have a wall thickness of not less than 4.7mm. Cast iron fittings shall be of similar quality and have inspection plates as required. General drains shall be 100mm diameter first class glazed earthenware with rubber ring joints.

CONTINUED...

5. **CONNECTION TO EXISTING DRAINAGE:**
The Drainlayer is responsible for verifying the position and depth of the connection and commence laying his drains from this point.

6. **DRAIN TRENCHES:**
The excavation of trenches for drains shall be accurately made with base clear and true to grade so that no unnecessary filling is required. Adequate width shall be allowed in accordance with depth of drain to enable laying and jointing to be properly carried out. Trenches shall be kept firm and dry and shall be opened up only in lengths that can be protected, utilised and refilled within a reasonable time.

7. **LAYING OF DRAINS:**
All drains are to be laid on and surrounded to mid-point with 100mm concrete composed of 6 parts shingle to 1 part Portland Cement. Any cast-iron drains that have been laid on any type of filling are to be set on a continuous bed of concrete 225mm wide x 150mm deep reinforced with three continuous 10mm rods. The pipes are to be laid to straight lines and even grades with socket against fall in all cases.

8. **FITTINGS:**
The plan shows the layout of the system. Additional fittings that are normally required such as inspection points and inspection bends, etc., that may be required but are not specifically shown must be allowed for by the Drainlayer to comply with normal practice under the regulations or special requirements of Local Council.

9. **JOINTING AND BEDDING OF PIPES:**
The pipes are to be jointed or caulked with lead in a proper manner and each and every junction or change of direction is to have removable cover plates for inspection .

10. **FALL IN DRAINS:**
The whole of the soil and stormwater drains are to be laid to a regular and even fall.

11. **GULLY TRAPS:**
Supply all gully traps and securely bed and build up with 5:1 concrete surround, 150mm above finished ground levels. From large and deep dishings and finish the surface with blue metal, dust and cemet, one to one and steel trowel smooth. All gully traps are to be fitted with large cast iron gratings and also a grating or perforated plate above the wastes discharging into it.

12. **SEWER AND STORMWATER CONNECTIONS:**
Arrange for the Council to connect drain to sewer and stormwater where provided and pay all charges in connection therewith.

13. **COMPLETION:**
Properly backfill all trenches, consolidate as filling proceeds and leave area in a tidy state.

SOLID PLASTERER

1. **PRELIMINARY AND GENERAL:**
Read and note all clauses under Preliminary and General of this specification where they apply to this trade.

2. **MATERIALS:**

Cement	-	shall be as specified under "Concretor"
Sand	-	shall be to NZS 3103 Sands for Mortars, Plaster and External Renderings
Hydrated Lime	-	shall be mill hydrated of an approved brand
Bonding Agents	-	if used shall be in accordance with maker's instructions.

3. **MIXES:**
Single, two (2) or three (3) coat work shown on drawings shall be in accord with NZS 4251 with mix strength varying from:-

(a) 1 part cement : 3 sand
(b) 1 part cement : .5 lime : 4.5 sand
(c) 1 part cement : 1 lime : 6 sand
or chosen to suit background and finish as required.

4. **FINISHES:**
Float finish, pebble dash or roughcast as directed by Owner.

5. **WORKMANSHIP:**
Backgrounds should be adquately mechanically keyed or the plasterer should use chemical bonding agents to ensure freedom from drumminess (poor bond).
Agree tolerance in straightness of walls, etc., with Owner before commencing work.
Any surface plastered will be deemed accepted as suitable by the plasterer and he will be held responsible should defects occur.

6. **COMPLETION AND CURING:**
Leave all work complete and clear away all plaster droppings. Keep work damp and maintain all finished to completion.

FIBROUS PLASTERER

1. **PRELIMINARY AND GENERAL:**
Read and note all clauses under Preliminary and General of this specification where they apply to this trade.

2. **WORK INCLUDED:**
The manufacture and application of fibrous plaster or plasterglass sheet to wall or ceiling surfaces as specified. The manufacture and application of cornices or other decorative fibrous plaster items as specified.

3. **MATERIALS AND WORKMANSHIP:**
All fibrous plaster or plasterglass sheets and other products shall be manufactured and fixed, strictly in accordance to NZS 4221 or with the Code of Practice of the New Zealand Fibrous Plaster Manufacturer's Association. The whole of the labour required for the erection, fixing, wadding and stopping shall be that of competent fibrous plaster tradesmen. Admixtures, release agents and stopping materials shall not be of a deleterious nature nor used in quantities sufficient to impair the properties of the sheet when used with or without decoration.

4. **FRAMING:**
All noggings, trimmings, straightening and packing of studs or joists, necessary for the fixing of fibrous plaster products shall be provided and completed by the Builder before the commencement of such work. Timber framing shall comply with NZSS 3631 (framing grades) and shall be pre-dried to an equilibrium moisture content not exceeding 15-16%. The surface to which fibrous plaster is fixed must be clean, straight and dry.

5. **CEILING DIAPHRAGMS:**
Fix all ceilings serving as structural ceiling diaphragms under terms of NZS 3604 (obtain methods of fixing and size limitations from manufacturer). Check that each wall under or connected to has bracing for a diaphragm.

6. **PAINTING:**
All fibrous plaster or plasterglass sheets and other products shall be painted strictly in accordance with the specifications outlined below:-

SYSTEM	FIRST COAT	SECOND COAT	THIRD COAT
No. 1	Varnish based Pigmented Sealer	Primer Undercoat	Full Gloss
No. 2	Varnish based Pigmented Sealer	Semi Gloss	Semi Gloss
No. 3	Varnish based Pigmented Sealer	Alkyd Flat	Alkyd Flat
No. 4	Varnish based Pigmented Sealer	PVA Plastic	PVA Plastic

Allow overnight drying between coats except for system No.4 where one or two hours drying time, according to manufacturer's instructions may be allowed between second and third coats.
NB: The fibrous plasterer will not accept responsibility for the effect of glancing light on fibrous plaster with a gloss paint finish.

ELECTRICIAN

1. **PRELIMINARY AND GENERAL:**
Read and note all clauses under Preliminary and General of this specification where they apply to this trade.

2. **FEES:**
Pay all fees and charges and obtain all necessary permits for this trade.

3. **SCOPE OF WORK:**
Carry out the whole of the electrical installations in strict accordance with the latest Electrical Wiring Regulations and Territorial Authority's By-Laws, and meter wiring diagrams.

4. **MATERIALS AND WORKMANSHIP:**
All materials used under this contract shall be of approved British or New Zealand Standard Specification. Allow for materials necessary to complete the Contract, whether specified or not. All work shall be carried out by a Registered Electrician in accordance with regulations and best trade practice and in a manner which will cause minimum inconvenience to other workmen and the work as a whole. Do all cutting away, drilling, etc., and with timber cut the minimum only away for the entry of cables.

5. **CO-OPERATION:**
Co-operate with the Building Contractor and other sub-contractors in all phases of work. Give ample notice to enable the Contractor to arrange the necessary void, chase data, etc.

6. **COMPLETION AND CONNECTION OF POWER:**
Leave work complete, pay all charges and arrange for all inspections and tests and for the connection of power to the works. It is the responsibility of the Electrical Contractor to ensure that no delay is occasioned to the job once the Contract is completed.

7. **POWER BOARD SUPPLY:**
Arrange with the Power Board, allow for and pay all fees for the connection of underground, or overhead, supply to the residence.

8. **METER BOX:**
Provide and install recessed meter box where shown on plan. Confer with Carpenter for trimming same.

9. **MAIN SWITCHBOARD:**
Provide and install in recess main switchboard complete with all necessary control and auxiliary equipment.

10. **ELECTRIC STOVE OR SIMILAR:**
    (a) Allow the P.C. sum of $..... for the supply only of the stove. Provide and fix a 30-amp flush switch for stove and sufficient cable for connection and allow for installation.
    (b) Allow the P.C. sum of $..... for the supply of extract fan in kitchen and bathroom (or Rangehood in kitchen).

11. **WATER HEATER:**
Allow for the permanent connection of the water heater to the electrical system. Provide and install 3kw element and thermostat to ..... litres hot water cylinder provided by the Plumber. Refer clause 3 of this section.

12. **POWER POINTS:**
All wall plugs shall be 230v, 10amp, 3 pin flush type. Generally install plugs 300mm above floor or 225mm above bench top. Points to washer/dryer space and refrigerator 1200mm from floor. The exact position of all power points shall be determined on the job by the Owner.

CONTINUED...

7. **PAINTING OF INTERIOR SURFACES:**
Refer to plan or separate instructions to accompany this specification. Wallboard and ceilings as required to be given one coat of sealer and finished with two coats of approved paint finishing flat or semi-gloss as required. Where full gloss is required such as kitchen and bathroom, finishing coat shall be full gloss enamel.

8. **VARNISHING:**
Where varnishing is required such as doors, architraves and skirtings give one coat of approved P.V.A. sealer followed by two coats of clear varnish finishing egg-shell gloss and lightly sanding between coats.

9. **CONCRETE:**
To concrete base walls or concrete block work apply two coats of exterior quality P.V.A. paint of an approved type finishing semi-gloss.

10. **ROOF:**
Roof - if corrugated iron prime all laps before fixing. For corrugated iron or galvanised trough section roofing after fixing prime roof with calcium plumbate galvanised iron primer and then apply one good coat of approved roof paint.

11. **PAPERHANGING:**
All rooms to be papered shall have paper hung to a value of $ ..... per roll. Wall shall be properly prepared by sizing, paper hung straight and true with butt joints, and paste used shall have a fungicide incorporated.

12. **GLAZIER:**
Glaze all window sashes, doors or screens and overhead screens, if shown, with appropriate weight glass and safety glasses or safety plastics properly fixed and puttied or beaded into rebates or gasket glaze. Where required glazing shall be selected obscure patterned glass.

13. **MIRROR:**
Provide a 6mm plate glass mirror and mount on bathroom cabinet door with mirror clips.

14. **COMPLETION:**
The Painter and Glazier is to do all that is required of their trades to leave the work complete and all must be left clean including all glass at completion.

13. **LIGHTS:**
All lights to be first quality, plastic batten holder shall be reinforced. All roses and holders not covered by fittings shall be white.

14. **LIGHT SWITCHES:**
Light switches shall be 10amp, all insulated P.D.L. micro-gap type or equivalent. Where indicated fit flush type with plain bakelite flush plate. Fix switches generally 1200mm above floor.

15. **SPECIAL FITTINGS:**
Allow the sum of $ ..... for fittings to be selected by Owner.

16. **LIGHT POINTS:**
Allow for installing a total of ..... outlets in building.

17. **POWER POINTS:**
Allow for installing a total of ..... power points in the building.

PAINTER AND GLAZIER

1. **PRELIMINARY AND GENERAL:**
Note all clauses under Preliminary and General of this specification which shall apply to this section of the work.

2. **MATERIALS:**
Generally all materials shall be of NZ manufacture of approved brands and of the paint selected respective coats shall be of the same brand.

3. **WORKMANSHIP:**
All work shall be carried out in accordance with good trade practice. Surfaces shall be clean and properly prepared before coating and work shall be in accordance with Code of Practice NZS 7703 "Painting of Building".

4. **COLOUR SCHEME:**
The Owner will select from standard colour charts, colours he will require and Contractor is to allow for picking out sashes, doors, porches or any other reasonable colour change required.

5. **STOPPING:**
After priming, all nail holes or joints are to be stopped and cleaned off before undercoating for painted work and for varnished work, holes, etc., are to be stopped with matching putty after first coat of sealer.

6. **PAINTING OF EXTERNAL WOODWORK:**
After priming all external woodwork and adjacent metal work such as flashings, spouting and downpipes is to be given one good coat of undercoat followed by finished coat of high gloss paint. Priming coat before painting shall be well brushed in and all faces shall be covered, ends of laps and tops and sides of sashes, doors, etc.

CONTINUED...

PROVISION FOR VARIATION NO. 1

Cost of Variation Order No.1. $..... Signatures:.....

Date:.....

PROVISION FOR VARIATION NO. 2

Cost of Variation Order No.1. $..... Signatures:.....

Date:.....

PROVISION FOR VARIATION NO. 3

Cost of Variation Order No.1. $..... Signatures:.....

Date:.....

PROVISION FOR VARIATION NO. 4

Cost of Variation Order No.1. $..... Signatures:.....

Date:.....

PROVISION FOR VARIATION NO.5

Cost of Variation Order No.1. $..... Signatures:.....

Date:.....

PROVISION FOR VARIATION NO. 6

Cost of Variation Order No.1. $..... Signatures:.....

Date:.....

PROVISION FOR VARIATION NO.7

Cost of Variation Order No.1. $..... Signatures:.....

Date:.....

References
Prior C/T 890/68

Transfer No.
N/C. Order No.

Declaration of Loss: 583979.1

Land and Deeds 69

COPY

No. 46C/214

CERTIFICATE OF TITLE UNDER LAND TRANSFER ACT

This Certificate dated the 16th day of July one thousand nine hundred and seventynine under the seal of the District Land Registrar of the Land Registration District of NORTH AUCKLAND

WITNESSETH that WILLIAM SETH AMBLER of Kaikohe, plumber as administrator

is seised of an estate in fee-simple (subject to such reservations, restrictions, encumbrances, liens, and interests as are notified by memorial underwritten or endorsed hereon) in the land hereinafter described, delineated with bold black lines on the plan hereon, be the several admeasurements a little more or less, that is to say: All that parcel of land containing 668 square metres more or less being part lot 30 Deposited Plan 16906 and being part of the Taumatawiwi Block.

DISTRICT LAND REGISTRAR

Assistant Land Registrar

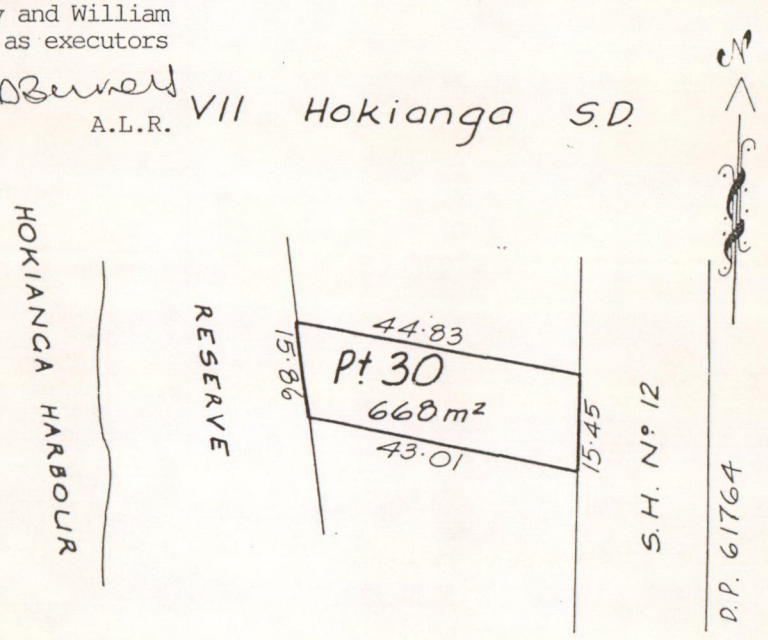
697584.1 Transfer to Norman Sydney Ambler of Whangarei carpenter - 28.11.1979 at 2.30 o'c

A.L.R.

B652969.2 Transmission to Fiona Bettina Stewart, of Whangaroa, secretary and William Seth Ambler of Kaikohe, plumber as executors - 14.4.1987 at 2.10 o'c

A.L.R.

VII Hokianga S.D.



-OVER-

js

6C/214

Measurements are metric
Exd RLC
D.P. 16906

CERTIFICATE OF TITLE No. /

B.716389.2 Transfer to Wayne Stuart Ambler of Whangarei painter and Shayne Lewis Ambler of Kerikeri contractor as tenants in common in equal shares - 12.8.1987 at 2.38 oc.

A.L.R.

C.594435.1 Transfer to Robert Percival MacMillan of Canada retired - 29.4.1994 at 1.49 oc.

A.L.R.

FAR NORTH DISTRICT COUNCIL
Private Bag 752
KAIKOHE
Ph: 0800 920029
Fax: (09) 401 0987 or (09) 408 1404

INSPECTION ADVISE NOTICE

TO: Mc Millan **DATE:** 2-08-2000

ADDRESS: S/H 12 **CONSENT NO:** 992027

Oponoi **VAL NO:** .....

.....

Builder Paul Quigg 4057836

TYPE OF INSPECTION CARRIED OUT

Site		Foundations	
Bond Beam		-Slab	✓
Subfloor		Framing	
Preline		Drains	
Utility Services		Interim Final	
Final		Fire place	
Other (specify)	.....		

Notes and/or action to be taken

D12 Perimetre Steel in

mesh lapped OK Depth OK

.....

OK to Pour

FURTHER INSPECTION REQUIRED: YES / NO

SIGNED: LB Moor .....
(For Council - Building Officer) (For Applicant/Builder/Agent)

TIME: 8-30 (AM)/PM **COPY REQUIRED:** ☐

(3 pages includes this one)

BY FAX - Mail confirmation Follows

T.DRUPSTEEN

Civil & Structual Design
Consulting Engineer

T.DRUPSTEEN Reg.Eng. B.E.
M.I.P.E.N.Z.
Private Bag, Taheke,
Kaikohe
Ph: (09) 4014737
Fax:(09) 4014710
email:drupstee@igrin.co.nz

The District Engineer
FNDC
9-4012137

00/5
1 March 2000
@ 0900 hr

Attention: Ms Julie McKee

Re: Consent - Issued Mac Millan House
SH 12 Opononi (Lot 10 DP
16906 Taumatawiwi Blk)
Stormwater Diffuser.

Herewith the Design Certificate and Design of a stormwater diffuser as requested by your Mr Malcolm Stevenson.

Yours faithfully,

Thijs Drupsteen
("Tase" / Drupsteen)

C.C. Mr Paul Quigg builder
fax 405 7750

DESIGN CERTIFICATE

for: Building Consent Application

I, Thijs Drupsteen
being registered under the Provisions of the Engineers' Registration Act 1924, and currently holding Annual Practising Certificate No 137B, I hereby certify:

For the structure Stormwater diffuser.
Drawn on the accompanying ~~plan(s) numbered~~ calculation sheet 00/2 pg 1 of
titled Mac Millan House, Opononi Stormwater Diffuser
Dated 1/3/00 and described in the accompanying ~~specifications~~, and proposed to be erected for Mr Mac Millan.
located at State Highway 12 Opononi

Items listed under "structure" only

(1) That I have personally supervised the preparation of the structural computations and the specifications, and state that the works defined above have been designed in accordance with sound and widely accepted engineering prinicples, that they have been designed to support the loads specified in N.A.
that I have ascertained to the best of my ability that the stresses and combinations of stresses in the various materials of construction under the above loads will not exceed the maxima to esnure the safety and stability of the structure if erected in accordance with those plans and specifications.

(2) That I accept personal responsibility for:

(a) The adequacy of the structural design submitted;

(b) The professional competency, in the structural engineering field, of the individual or individuals who have personally carried out:

(i) The actual structural computations and of the structural drawings.

(c) The professional competency, in the foundation engineering field, of the individual or individuals who have perosnally carried out the necessary testing for and evaluation of safe foundation pressures and conditions.

(3) That the structural drawings correctly represent the intended design as hereinbefore defined.

(4) That the computed maximum ground pressure exerted by the foundation is N.A.

Signature T. Drupsteen Date 1 March 2000

I confirm that I am the holder of a current Professional Indemnity Insurance Policy of not less than $200,000.

Principal

T. DRUPSTEEN Consulting Engineer
B.E. Registered Engineer, M.I.P.E.N.Z.
Private Bag, Tahekc, Kaikohe
Ph (9) 4014737
email : drupstee@igrin.co.nz

T. DRUPSTEEN Consulting Engineer
B.E. Registered Engineer, M.I.P.E.N.Z.
Horeke Rd, R.D. 3, Kaikohe
Ph/Fax (9) 4014 737
email : drupstee@igrin.co.nz

13 10J1

00/7
T. Drupsteen
1/3/00

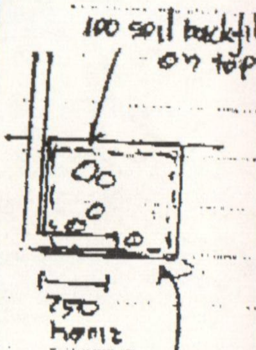
Mac Millan House, Opononi
Stormwater Diffuser

Design

Design is notional only, because apart from in cavernous volcanic areas (such as some parts of urban Auckland) SOAKHOLES FOR STORMWATER DO NOT WORK – this needs to be recognised by the building controls fraternity. Better to speak of (and design) "stormwater diffusers" which dissipate stormwater without erosion. Hence notional soakhole nominated for this case = 1.5 m³ filled with 125 mm – 200 mm "rock spalls & lined with weedmat" filter cloth or similar.

Note : 1) This sandy beachfront site is probably the best-soaking available in the Far North District.

2) The notional size would be applicable all over the FND, as practical soakholes don't work anyway.



1.5m x 1.5m x 1.5m filled with 125–200mm rock spalls. All six sides lined with weedmat or similar

DESIGN CERTIFICATE

for: Building Consent Application

Received: 06 MAR 2000	
Dept	Doc Ref
ENV	3/00/318

I, Thijs Drupsteen
being registered under the Provisions of the Engineers' ~~Registration Act 1924~~,
and currently holding Annual Practising Certificate No 137B, I hereby certify:

For the structure Stormwater diffuser.

Drawn on the accompanying ~~plan(s) numbered~~ calculation sheet 00/7 pg 1 of 1
titled Mac Millan House, Opononi Stormwater Diffuser
Dated 1/3/00 and described in the accompanying ~~specifications~~, and proposed
to be erected for Mr Mac Millan.
located at State Highway 12 Opononi

(1) That I have personally supervised the preparation of the structural computations and the specifications, and state that the works defined above have been designed in accordance with sound and widely accepted engineering prinicples, that they have been designed to support the loads specified in N.A.
that I have ascertained to the best of my ability that the stresses and combinations of stresses in the various materials of construction under the above loads will not exceed the maxima to esnure the safety and stability of the structure if erected in accordance with those plans and specifications.

(2) That I accept personal responsibility for:

(a) The adequacy of the structural design submitted;
(b) The professional competency, in the structural engineering field, of the individual or individuals who have personally carried out:
(1) The actual structural computations and of the structural drawings.
(c) The professional competency, in the foundation engineering field, of the individual or individuals who have perosnally carried out the necessary testing for and evaluation of safe foundation pressures and conditions.

(3) That the structural drawings correctly represent the intended design as hereinbefore defined.

(4) That the computed maximum ground pressure exerted by the foundation is N.A.

Items listed under "structure" only

Signature T. Drupsteen Date 1 March 2000

I confirm that I am the holder of a current Professional Indemnity Insurance Policy of not less than $200,000.

Principal

T. DRUPSTEEN Consulting Engineer
B.E. Registered Engineer, M.I.P.E.N.Z.
Private Bag, Taheke, Kaikohe
Ph (9) 4014737
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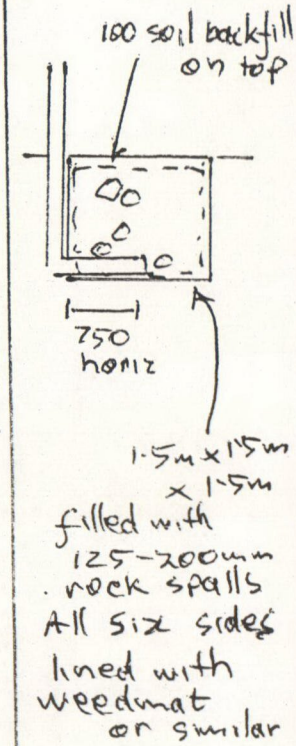
T. DRUPSTEEN Consulting Engineer
B.E. Registered Engineer, M.I.P.E.N.Z.
Horeke Rd, R.D. 3, Kaikohe
Ph/Fax (9) 4014 737
email : drupstee@igrin.co.nz

00/7
T. Drupsteen
1/3/00

Mac Millan House, Opononi
stormwater Diffuser

Design

Design is notional only, because apart from in cavernous volcanic areas (such as some parts of urban Auckland) SOAKHOLES FOR STORMWATER DO NOT WORK - this needs to be recognised by the building controls fraternity. Better to speak of (and design) "stormwater diffusers" which dissipate stormwater without erosion. Hence notional soakhole nominated for this case = 1.5 m³ filled with 125mm - 200 mm rock spalls & lined with "weedmat" filter cloth or similar.



Note : 1) This sandy beachfront site is probably the best-soaking available in the Far North District.

2) The notional size would be applicable all over the FND, as practical soakholes don't work anyway.