

Sharalyn Fraser *Agency*

Statement of passing over information – This information has been supplied by the Vendor or the vendor's agents. Accordingly, Sharalyn Fraser Agency (Ownly Limited licensed (REA 2008) is merely passing over the information as supplied to us by the vendor or vendors agents.

We cannot guarantee its accuracy and reliability as we have not checked, audited, or reviewed the information and all intended purchasers are advised to conduct their own due diligence investigation into the same. To the maximum extent permitted by law Sharalyn Fraser Agency (Ownly Limited licensed (REA 2008) does not accept any responsibility to any person for the accuracy of the information herein

CODE COMPLIANCE CERTIFICATE

Section 95 Building Act 2004 [Form 7 – Building (forms) Regulations 2004]



Consent No: 020392

The Building			
Street address of building:	87 Huia Street, Waikanae	Building name:	N/A
Current, Lawfully established, use:	Residential Dwelling	Location of building within site/block number:	1.7m from south-western boundary
Level/unit number:	Single Level	Intended life of the building if 50 years or less:	Indefinite, but not less than 50 years
Legal description of land where building is located:	LOT 7 DP 47674	Year first constructed:	1987
The Owner			
Name of owner:	Mr L Senior	Street address /registered office:	N/A
Contact person:	As above	Phone numbers:	
Mailing address:	87 Huia Street Waikanae 5036	Landline:	-
		Mobile:	027 319 7547
		Daytime:	-
Email address:	-	After hours:	-
Website:	-	Facsimile number:	-
First point of contact for communications with the Kapiti Coast District Council:			
As above			
Building Work			
Building Consent No:	020392	Issued by:	Kapiti Coast District Council
Project Description:	Garage Addition To Dwelling		

Code Compliance

The building consent authority named below is satisfied, on reasonable grounds, that:

- (a) the building work complies with the building consent

Michelle Salmon –
Building Inspections Team Leader
On behalf of **Kapiti Coast District Council**

Date: 06 June 2018



Statement of Compliance with the NZ Building Code

Consent No: 020392

ISSUED BY: Kapiti Coast District Council

PROJECT

Site Address: 87 HUIA STREET, WAIKANAE
Legal Description: LOT 7 DP 47674
Work Description: GARAGE ADDITION TO DWELLING
Building Category:

OWNER

Name(s): MR L SENIOR
Address: 87 HUIA STREET, WAIKANAE

- [P] Application for CCC received and accepted
- [P] Confirm all required inspections completed and documented in GoGet
- [NA] If inspection(s) have been missed, have they been compensated for?
- [NA] If supervision was required for any inspection - did it occur?
- [P] Work in accordance with approved consent and approved amendments
- [NA] Have any notices to fix been uplifted?
- [P] Supporting documentation required in building consent addenda received
- [P] Quality assurance documentation
- [NA] Restricted building work
- [P] Additional information required and received
- [NA] Compliance schedule issued
- [NA] Earthquake prone building
- [NA] Swimming Pool details updated
- [NA] Warnings and Bans
- [NA] Approve to issue Code Compliance Certificate if all fees paid
- [NA] Approve to issue Certificate for Public Use if all fees paid
- [NA] Approve to issue Certificate of Acceptance if all fees paid
- [NA] Supervision review

NOTES:

Inspections Prepaid: n/a

Inspections Done:

Do refunded 2013
On review of the documentation and inspection notes it can be considered on reasonable grounds that all work has been completed in compliance with the building consent.

Signed:
Name: Alan Tinney
Position: Building Officer

Date: 6 June 2018



Electrical Workers Registration Board

SAFETY | COMPETENCY | COMPLIANCE

Electrical Certificate of Compliance and Electrical Safety Certificate

Reference/Certificate ID No:



This form has been designed to be used by licensed electrical workers to certify that installations or Part installations under **Part 1 or Part 2 of AS/NZS 3000** are safe to be connected to the **specified** system of electrical supply.

LOCATION AND CONTACT

Location Details	87 Huia Street, Waikanae	Contact Address	87 Huia Street, Waikanae	Postcode	
Contact Name	Laurie Senior				
Name of Electrical worker:	Matthew Meaclem	Registration/Practising licence number:	E260636		
Organisation/ company:	Just Electric Paraparaumu				
Phone:	0275353332	Email:	mattmeaclem@gmail.com		
Name of person(s) supervised:					

CoC

Type of work:	<input type="radio"/> Additions	<input checked="" type="radio"/> Alterations	<input type="radio"/> New work
The prescribed electrical work is:	<input type="radio"/> Low risk	<input checked="" type="radio"/> General	<input type="radio"/> High risk (specify):
Reference Standards:	<input type="radio"/> Part 1 of AS/NZS 3000	<input checked="" type="radio"/> Part 2 of AS/NZS 3000	
	<input type="radio"/> Additional Standards:		

Description of work: (including date/s of work and type of supply system)

New garage installation, 6 x power points, 2 x sensor lights & 12 x lights

I certify that the completed prescribed electrical work to which this Certificate of Compliance applies has been done lawfully and safely, and the information in the certificate is correct in that the installation, or part of the installation:

Select those that apply:

- ☐ Has been installed in accordance with the specified certified design¹
- ☒ Has an earthing system that is correctly rated (where applicable)
- ☒ Contains fittings that are safe to connect to a power supply
- ☐ Relies on a supplier Declaration of Conformity¹
- ☒ Has been satisfactorily tested in accordance with the Electricity (Safety) Regulations 2010
- ☒ Is safe to connect

Electronic/Other reference:

Certifier's signature:

Matthew Meaclem

¹ Attach or reference. If it is impractical to attach a copy of a particular manufacturer's instructions, or of any certified design or supplier declaration of conformity, provide a reference to where the documents can be found, in a readily accessible format, by electronic means.

Test Results	
Polarity (independent earth):	
Insulation resistance:	99.9 mohms
Earth Continuity:	
Bonding:	
Fault Loop impedance:	0.4 ohms
Other (specify):	235 volts

Date: 10 / 02 / 2016

ESC

I certify that the installation, or part of the installation, to which this Electrical Safety Certificate applies is connected to a power supply and is safe to use.

Certifier's name:	Matthew Meaclem	Registration/Practising licence number:	E260636		
Certifier's signature:	<i>Matthew Meaclem</i>	Certificate Issue Date:	10 / 02 / 2016	Connection Date:	10 / 02 / 2016

CUSTOMER COPY - THIS IS AN IMPORTANT DOCUMENT AND SHOULD BE RETAINED FOR A MINIMUM OF 7 YEARS

This certificate also confirms that the electrical work complies with the building code for the purposes of Section 19(1)(e) of the Building Act 2004.

APPROVED BY
Leon Smith
BUILDING
OFFICER
6/06/2018

00001



DURABILITY MODIFICATION

Address of Property:

87 Huia St Waikanae

Building Consent Number:

020392

Request:

Due to the time delay in my application for a Code of Compliance Certificate, I would like to amend the above Building Consent in relation to a modification of durability clause B2.3.1 of the Building Code.

The commencement date for durability is to be backdated to:

Date

26/6/02

Signature:

Name: (please print)

John George H. Cernia

Signed:

John George H. Cernia

Date

1/6/2018

00001



DURABILITY MODIFICATION

Address of Property:

87 Huia St Waikanae

Building Consent Number:

020392

Request:

Due to the time delay in my application for a Code of Compliance Certificate, I would like to amend the above Building Consent in relation to a modification of durability clause B2.3.1 of the Building Code.

The commencement date for durability is to be backdated to:

Date

26/6/02

Signature:

Name: (please print)

John Joseph H. Cernia

Signed:

John Joseph H. Cernia

Date

1/6/2018



Electrical Workers Registration Board

SAFETY | COMPETENCY | COMPLIANCE

Electrical Certificate of Compliance and Electrical Safety Certificate

Reference/Certificate ID No: _____



This form has been designed to be used by licensed electrical workers to certify that installations or Part installations under **Part 1 or Part 2 of AS/NZS 3000** are safe to be connected to the **specified** system of electrical supply.

LOCATION AND CONTACT

Location Details	87 Huia Street, Waikanae	Contact Address	87 Huia Street, Waikanae	Postcode	
Contact Name	Laurie Senior				
Name of Electrical worker:	Matthew Meaclem	Registration/Practising licence number:	E260636		
Organisation/ company:	Just Electric Paraparaumu				
Phone:	0275353332	Email:	mattmeaclem@gmail.com		
Name of person(s) supervised:					

CoC

Type of work:	<input type="radio"/> Additions	<input checked="" type="radio"/> Alterations	<input type="radio"/> New work
The prescribed electrical work is:	<input type="radio"/> Low risk	<input checked="" type="radio"/> General	<input type="radio"/> High risk (specify):
Reference Standards:	<input type="radio"/> Part 1 of AS/NZS 3000	<input checked="" type="radio"/> Part 2 of AS/NZS 3000	
	<input type="radio"/> Additional Standards:		

Description of work: (including date/s of work and type of supply system)

New garage installation, 6 x power points, 2 x sensor lights & 12 x lights

I certify that the completed prescribed electrical work to which this Certificate of Compliance applies has been done lawfully and safely, and the information in the certificate is correct in that the installation, or part of the installation:

Select those that apply:

- ☐ Has been installed in accordance with the specified certified design¹
- ☒ Has an earthing system that is correctly rated (where applicable)
- ☒ Contains fittings that are safe to connect to a power supply
- ☐ Relies on a supplier Declaration of Conformity¹
- ☒ Has been satisfactorily tested in accordance with the Electricity (Safety) Regulations 2010
- ☒ Is safe to connect

Test Results	
Polarity (independent earth):	
Insulation resistance:	99.9mohms
Earth Continuity:	
Bonding:	
Fault Loop impedance:	0.4 ohms
Other (specify):	235 volts

Electronic/Other reference:

Certifier's signature:

Date: 10 / 02 / 2016

¹ Attach or reference. If it is impractical to attach a copy of a particular manufacturer's instructions, or of any certified design or supplier declaration of conformity, provide a reference to where the documents can be found, in a readily accessible format, by electronic means.

ESC

I certify that the installation, or part of the installation, to which this Electrical Safety Certificate applies is connected to a power supply and is safe to use.

Certifier's name: Matthew Meaclem

Registration/Practising licence number: E260636

Certifier's signature:

Certificate Issue Date:

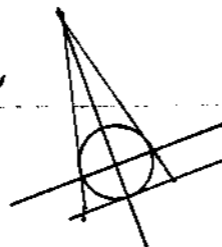
10 / 02 / 2016

Connection Date:

10 / 02 / 2016

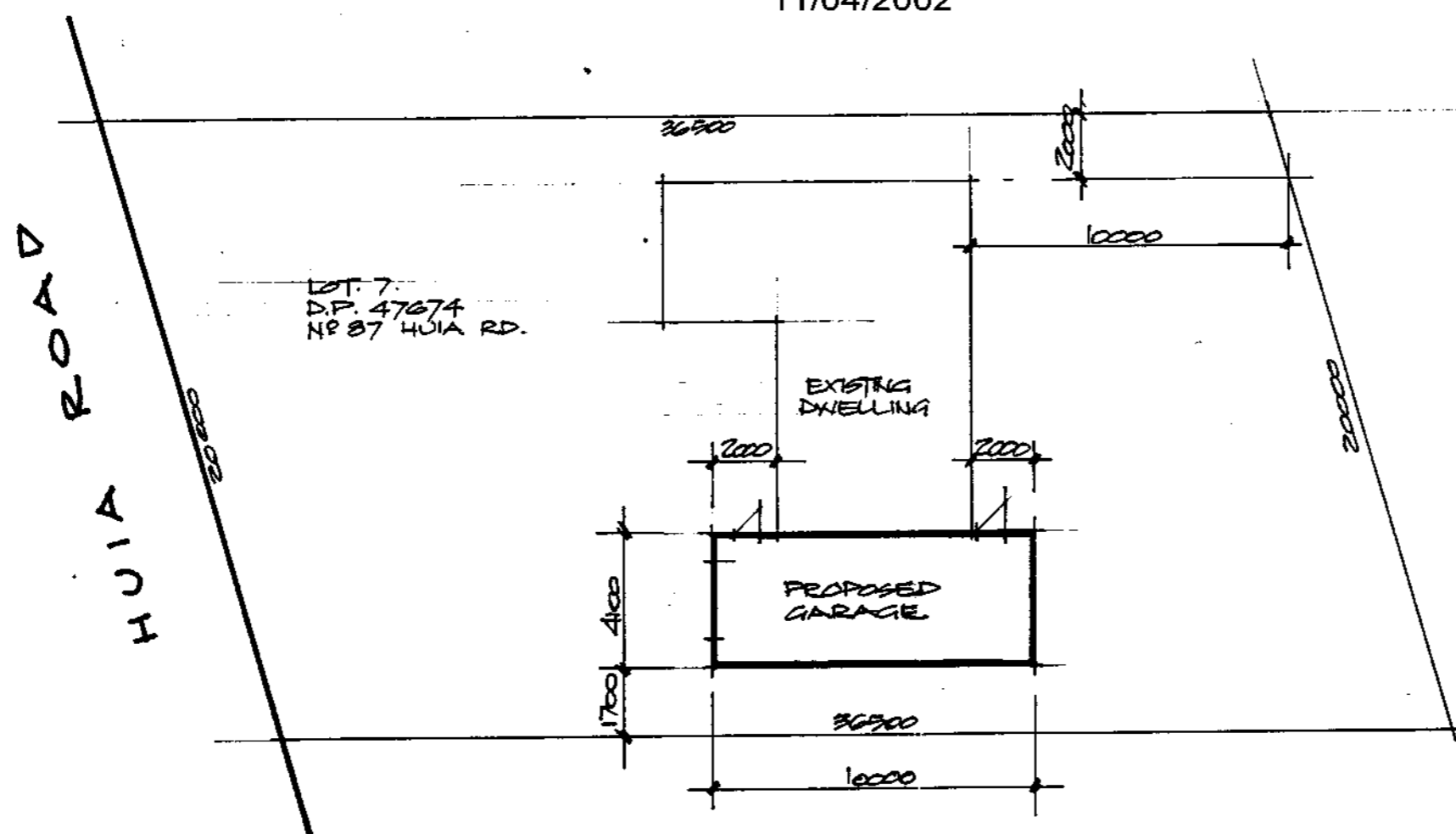
CUSTOMER COPY - THIS IS AN IMPORTANT DOCUMENT AND SHOULD BE RETAINED FOR A MINIMUM OF 7 YEARS

This certificate also confirms that the electrical work complies with the building code for the purposes of Section 19(1)(e) of the Building Act 2004.



APPROVED
BY PLANNING
Arnold Hawkins
Officer

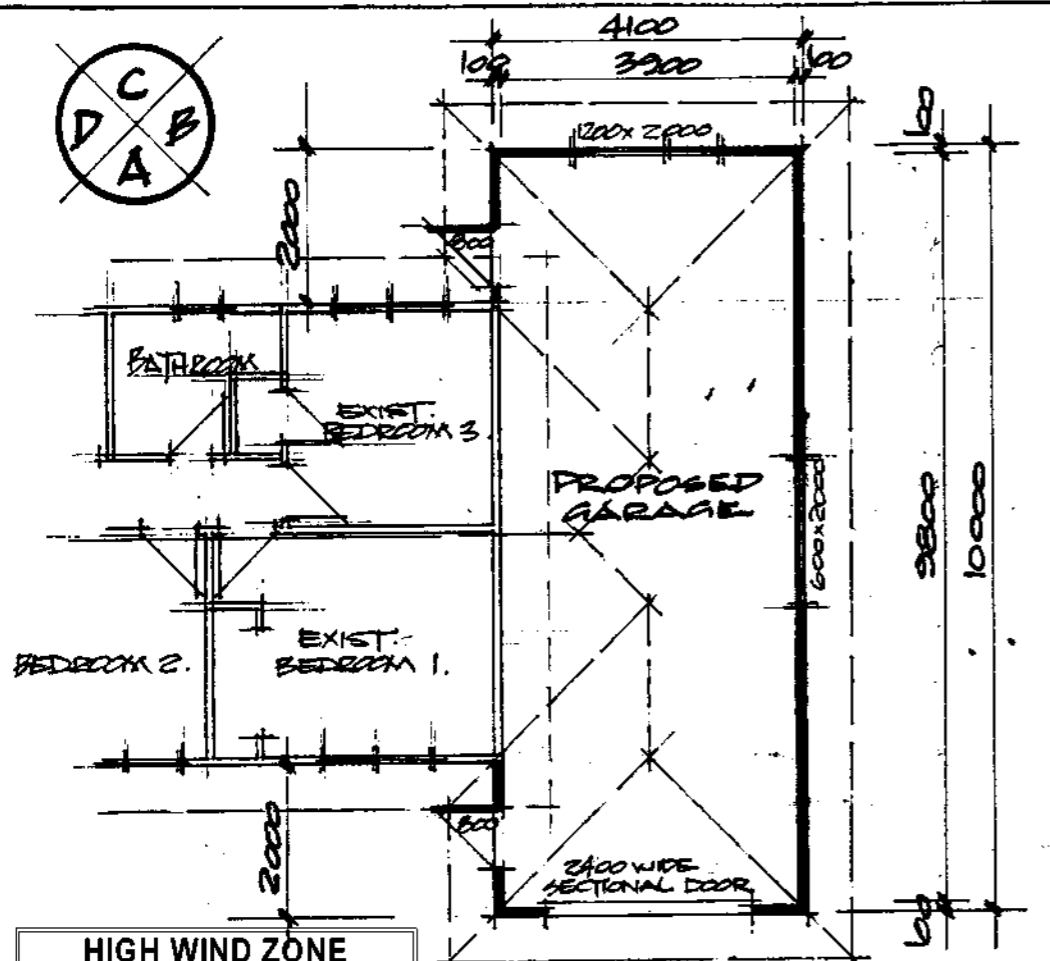
11/04/2002



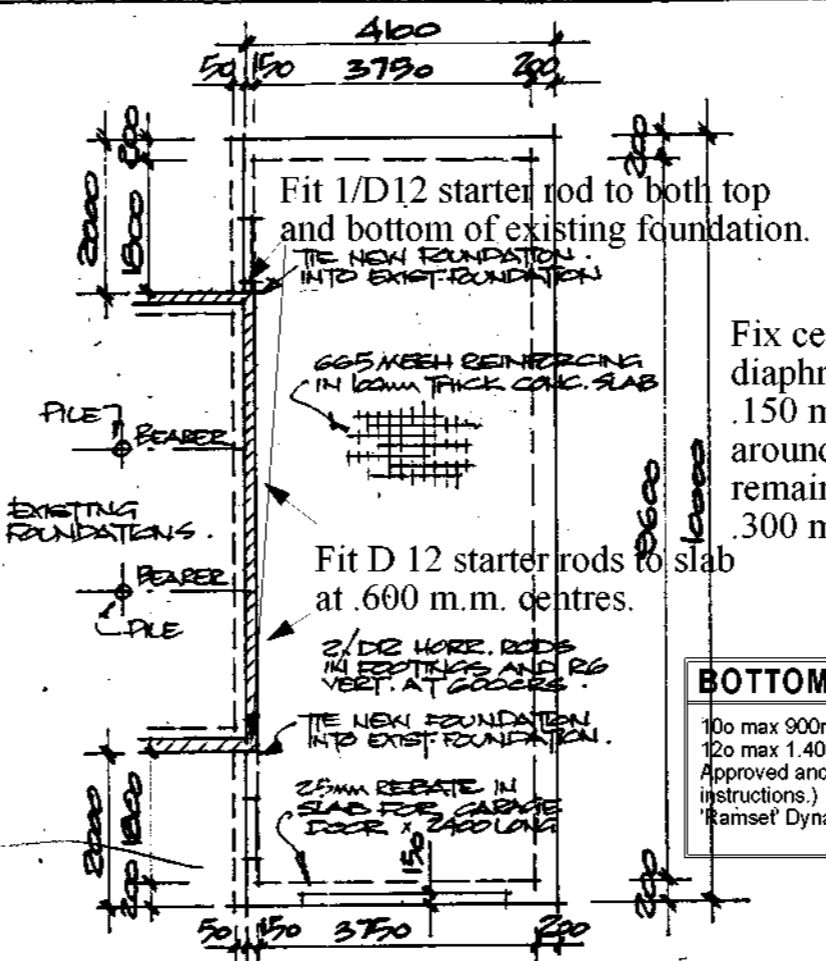
SITE PLAN / DRAINAGE PLAN

PROPOSED NEW GARAGE FOR MR. L. SENIOR
LOT 7 D.P. 47674 87 HUIA ROAD - WAIKANA E

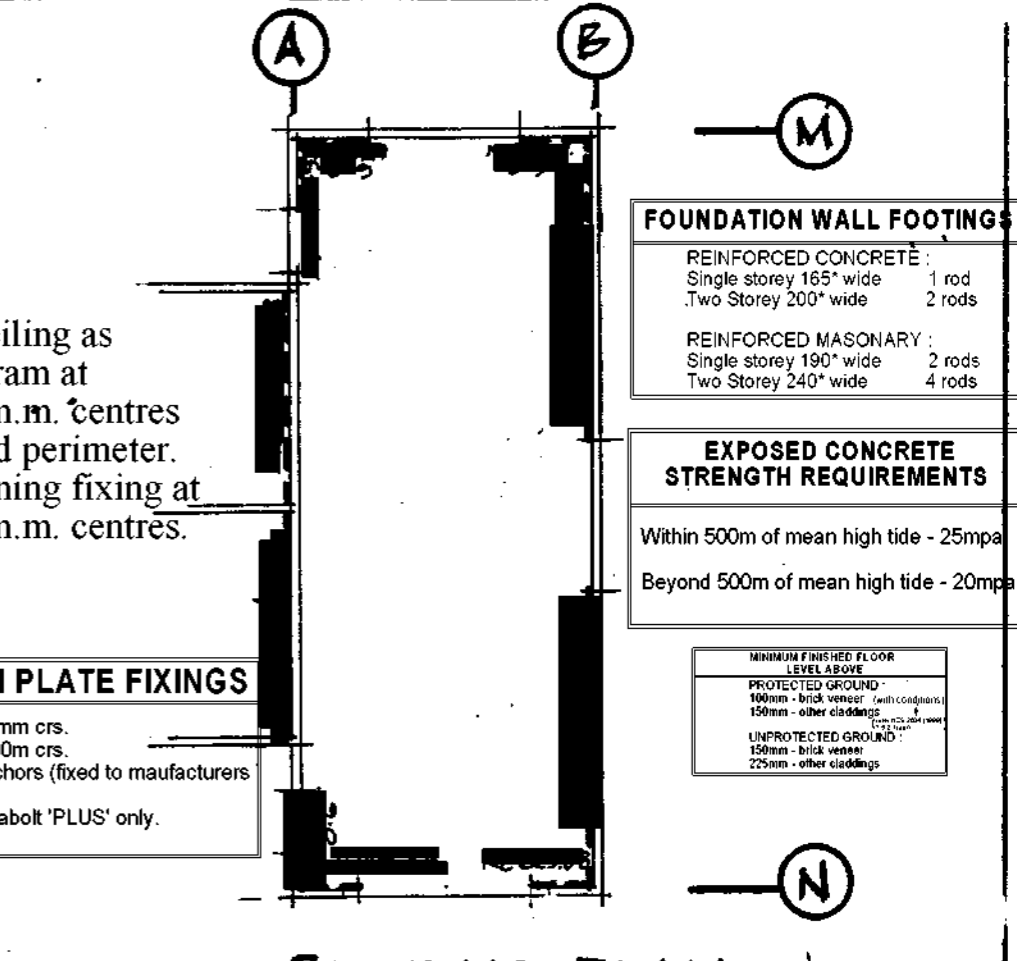
DRAWN BY : P. CUDYALD	DRAWING NO :
DATE : 9.2.02	
SCALE : 1:200	
CHKD. :	



FLOOR PLAN 1:100



FOUNDATION PLAN 1:100



BRACING PLAN 1:100

FOUNDATION WALL FOOTINGS

REINFORCED CONCRETE:	
Single storey 165" wide	1 rod
Two Storey 200" wide	2 rods
REINFORCED MASONRY:	
Single storey 190" wide	2 rods
Two Storey 240" wide	4 rods

EXPOSED CONCRETE STRENGTH REQUIREMENTS

Within 500m of mean high tide - 25mpa
Beyond 500m of mean high tide - 20mpa

MINIMUM FINISHED FLOOR LEVEL ABOVE

PROTECTED GROUND:	
100mm - brick veneer (with condiments)	
150mm - other claddings	
UNPROTECTED GROUND:	
150mm - brick veneer	
225mm - other claddings	

HIGH WIND ZONE
2" Z' Nails to truss / rafter and external wall top plates (light roof).
Standard framing to NZS 3604 stud tables.
Fixings in accordance with nailing schedule.

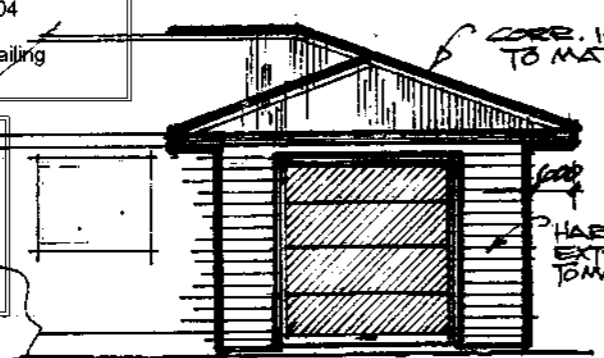
APPROVED BY BUILDING
Don Blaikie
Officer

15/04/02

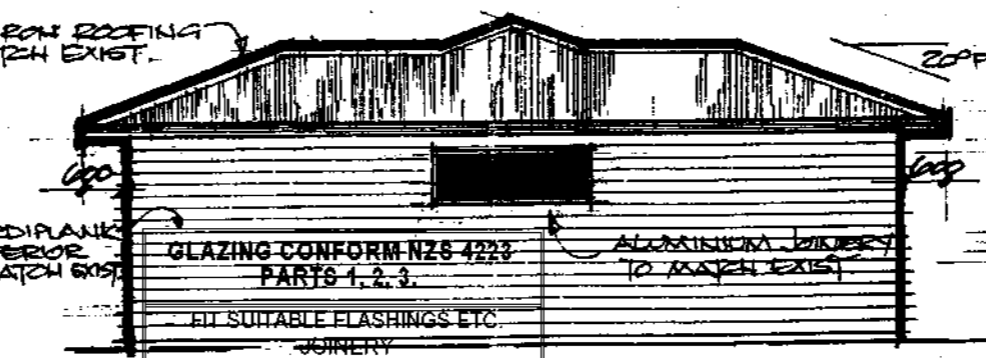
APPROVED BY PLANNING
Arnold Hawkins
Officer

11/04/2002

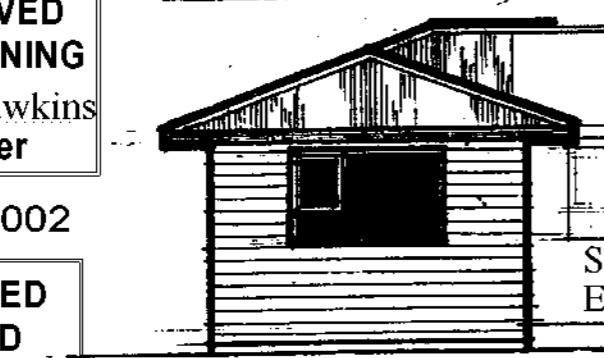
APPROVED BY P & D
Arnold Hawkins
Officer



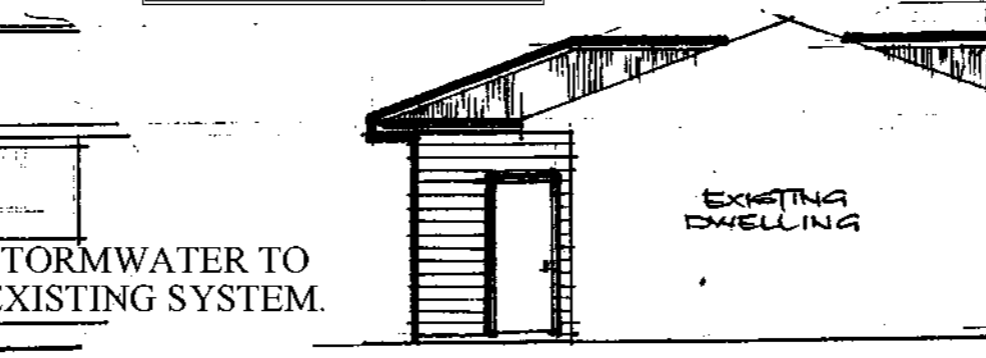
ELEVATION A. 1:100



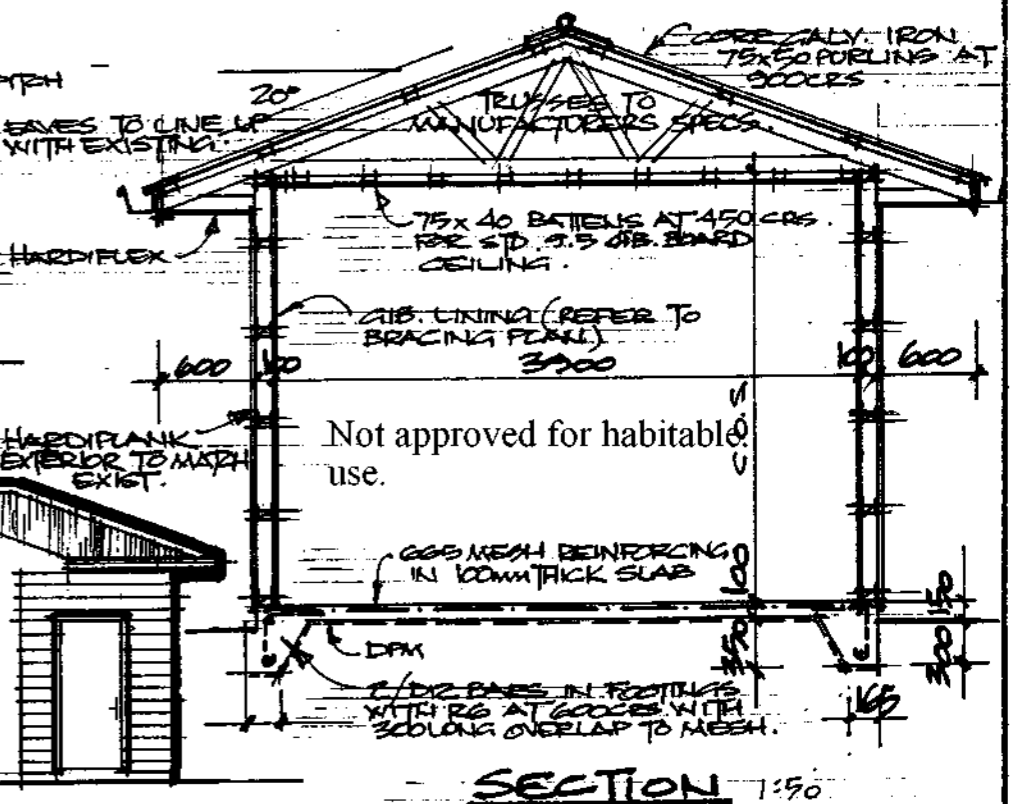
ELEVATION B. 1:100



ELEVATION C. 1:100



ELEVATION D. 1:100



SECTION 1:50

PROPOSED NEW GARAGE FOR MR. L. SENIOR
LOT. 7 D.P. 47674 87 HUIA ROAD - WAIKANAHE

DRAWN BY: P. YOLDYALD	DRAWING NO:
DATE: 9-2-02	
SCALE: 1:100, 1:50	
CHKD.:	

Wall Bracing Calculation Sheet A

Job Details

box 1

Name L. SENIOR

Street and Number 87 HUIA ROAD

Lot and DP Number LOT. 7. D.P. 47674

City/Town/District WAIKANAE

Location of Storey: single/upper of two/lower of two Floor load: 2kPa/3kPa

Building height to apex 4.0 m Roof weight light/heavy

Roof height above eaves 1.2 m Cladding weights: Subfloor light/medium/heavy

Lower Storey light/medium/heavy

Stud height 2.7 m Upper Storey light/medium/heavy

Average roof pitch 20° Room in Roof Space Yes / No

Building length BL = 10 m Gross Building

Building width BW = 4.1 m Plan Area, GPA = 41 m²

Note: When the average roof pitch is over 25 degrees, use the eaves length and width to determine BL and BW.

Note: For heavy roofs use the roof plan at eaves level to determine GPA.

Wind Zone

box 2

Region: R1 0 ☒ Terrain: Inland 0 ☒ Exposure: Sheltered 0 ☒ Topography: Gentle 0 ☐
R2 1 ☐ Coastal 1 ☐ Exposed 1 ☐ Moderate 1 ☒
Extreme 3 ☐
Total points _____
Wind Zone: _____ Low (0) ☒ Very high (3)
_____ Medium (1) _____ Specific Design (4)
_____ High (2)

Earthquake Zone

box 3

From figure EQ1 select Earthquake Zone: A B C

BU's required Wind

box 4

From Table W1A/W1B

W along = 52 BUs/m

W across = 39 BUs/m

Total wind load,

W ALONG:

W along x BW = 213 BUs

W ACROSS

W across x BL = 390 BUs

BUs required Earthquake

box 5

From Table EQ1/EQ2/EQ3/EQ4/EQ5/EQ6
 $E = \underline{6-7} \text{ BU/m}^2$
Note: For a room in the roof space use $E + 3$
 Total earthquake load,
 EQ ALONG and EQ ACROSS
 $E \times \text{GPA BU} = \underline{275} \text{ BU}$

Fix perimeter of ceiling as diaphragm at .150 m.m. centres and remaining fixing at .300 m.m. centres.

06 June 2018

MR L SENIOR
87 HUIA STREET
WAIKANAE

Dear Building Consent Applicant / Building Owner

**Notification of Building Consent Granted
Subject to a Modification to the Building Code: 020392**

Site Address: 87 HUIA STREET, WAIKANAE
Legal Description: LOT 7 DP 47674
Project Description: GARAGE ADDITION TO DWELLING

We recently issued you with an amendment relating to the above building project.

The above amendment has been granted subject to a modification to the Building Code.

This modification is made under section 67 of the Building Act 2004.

The modification is granted with respect to clause B2.3.1 from 26/06/2002 instead of from the time of issue of the code of compliance certificate.

This modification applies only to building work carried out under this Building Consent.

Please keep this letter with your building consent documentation.

Yours sincerely



Leon Smith
Team Leader Building Approvals

GoGet Inspection Audit Report

Consent No: **020392**
Applicant: **MR L SENIOR**
Site Address: **87 HUIA STREET, WAIKANAE**
Work Type: **GARAGE ADDITION TO DWELLING**

Inspection Type: **Final Inspection**
Inspection Outcome: **Fail**
Inspected By: **Alan Tinney**
Inspection Date: **30 May 2018 12:21 p.m.**
Duration: **30 minutes**

Inspection Element	Status
Exterior	Fail
Inspection notes	Pass
Drawings	Pass
Additional information/plan	Pass
Sub-floor ventilation	N/A
Roof fixings	Pass
Spouting and down-pipes	Pass
Deck structure	N/A
Flashings - roof	Pass
Penetrations - flashings	Pass
Barriers	N/A
Gully dishes	N/A
Stormwater and site drainage	Pass
Handrails	N/A
Wastes to gully	N/A
Fixings - durability	Fail
Steps/stairs	N/A
Terminal vents/AAVs	N/A
Cladding painted/sealed	Pass
Flashings - windows/doors	Pass
Cladding ground clearance	Fail
12mm clearance deck to cladding	
Road crossing complete	N/A
Final check complete	Pass
Other	N/A
Interior	Pass
Inspection notes	Pass
Drawings	Pass
Additional information/plan	Pass
Service areas-floors/walls	N/A
Stair design	N/A
Handrails	N/A
Balustrades	N/A
Lightings	Pass
Laundering	N/A
Cooking facilities	N/A
Smoke detectors	N/A

Food storage/preparation	N/A
Ventilation	N/A
Insulation and clearance	Pass
HWC flues	N/A
HWC restraint	N/A
Tempering valve	N/A
Glazing - human impact	N/A
Hot water temp	N/A
Solid fuel heater	N/A
Water supply tank	N/A
Trap seals and AAVS	N/A
Cistern flushing	N/A
WC pan connection	N/A
Septic tank	N/A
Window labels	N/A
Final check complete	Pass
Other	N/A
Intertenancy/commercial	N/A
Other	N/A
<hr/>	
Support Documentation	
Application for CCC	Required
Electrical safety certificate	Required
Application for amendment to the building consent	Required



Taken at 12:05 PM on Wednesday 30/05/2018



Taken at 12:07 PM on Wednesday 30/05/2018



Taken at 12:08 PM on Wednesday 30/05/2018



Taken at 12:09 PM on Wednesday 30/05/2018

GoGet Inspection Audit Report

Consent No: **020392**

Applicant: **MR L SENIOR**

Site Address: **87 HUIA STREET, WAIKANAE**

Work Type: **GARAGE ADDITION TO DWELLING**

Inspection Type: **Final Inspection**

Inspection Outcome: **Fail**

Inspected By: **Alan Tinney**

Inspection Date: **5 June 2018 9:10 a.m.**

Duration: **15 minutes**

Inspection Element

Status

Exterior

Fail

Cladding ground clearance

Pass

12mm clearance deck to cladding

SITE NOTICE

Consent No: **020392**
Applicant: **MR L SENIOR**
Site Address: **87 HUIA STREET, WAIKANAE**
Work Type: **GARAGE ADDITION TO DWELLING**
Building Category:

Inspection Type: **Final Inspection**
Inspection Outcome: **Fail**
Inspected By: **Alan Tinney**
Inspection Date: **30 May 2018**

Passed Items

Exterior

Inspection notes
Drawings
Additional information/plan
Roof fixings
Spouting and down-pipes
Flashings - roof
Penetrations - flashings
Stormwater and site drainage
Cladding painted/sealed
Flashings - windows/doors
Final check complete

Interior

Inspection notes
Drawings
Additional information/plan
Lightings
Insulation and clearance
Final check complete

Failed Items

Exterior

Fixings - durability
Cladding ground clearance **12mm clearance deck to cladding**

Support Documentation

Status

Application for CCC	Required
Electrical safety certificate	Required
Application for amendment to the building consent	Required

SITE NOTICE

Consent No: **020392**
Applicant: **MR L SENIOR**
Site Address: **87 HUIA STREET, WAIKANAE**
Work Type: **GARAGE ADDITION TO DWELLING**
Building Category:

Inspection Type: **Final Inspection**
Inspection Outcome: **Fail**
Inspected By: **Alan Tinney**
Inspection Date: **5 June 2018**

Passed Items

Exterior

Cladding ground clearance	12mm clearance deck to cladding
---------------------------	--

Failed Items

Exterior

Support Documentation

Status

Application for CCC	Required
Electrical safety certificate	Required
Application for amendment to the building consent	Required

GoGet Inspection Audit Report

Consent No: **020392**

Applicant: **MR L SENIOR**

Site Address: **87 HUIA STREET, WAIKANAE**

Work Type: **GARAGE ADDITION TO DWELLING**

Inspection Type: **Final Inspection**

Inspection Outcome: **Pass**

Inspected By: **Alan Tinney**

Inspection Date: **6 June 2018 8:42 a.m.**

Duration: **15 minutes**

Inspection Element

Status

Exterior

Pass

Fixings - durability

Pass

GoGet Inspection Audit Report

Consent No: **020392**

Applicant: **MR L SENIOR**

Site Address: **87 HUIA STREET, WAIKANAE**

Work Type: **GARAGE ADDITION TO DWELLING**

Inspection Type: **Final Inspection**

Inspection Outcome: **Pass**

Inspected By: **Alan Tinney**

Inspection Date: **6 June 2018 8:46 a.m.**

Duration: **15 minutes**

SITE NOTICE

Consent No: **020392**
Applicant: **MR L SENIOR**
Site Address: **87 HUIA STREET, WAIKANAE**
Work Type: **GARAGE ADDITION TO DWELLING**
Building Category:

Inspection Type: **Final Inspection**
Inspection Outcome: **Pass**
Inspected By: **Alan Tinney**
Inspection Date: **6 June 2018**

Passed Items

Exterior
Fixings - durability

Support Documentation	Status
Application for CCC	Required
Electrical safety certificate	Required
Application for amendment to the building consent	Required

SITE NOTICE

Consent No: **020392**
Applicant: **MR L SENIOR**
Site Address: **87 HUIA STREET, WAIKANAE**
Work Type: **GARAGE ADDITION TO DWELLING**
Building Category:

Support Documentation	Status
Application for CCC	Accepted
Electrical safety certificate	Accepted
Application for amendment to the building consent	Accepted

CODE COMPLIANCE CERTIFICATE

Section 95 Building Act 2004 [Form 7 – Building (forms) Regulations 2004]



Consent No: 020392

The Building			
Street address of building:	87 Huia Street, Waikanae	Building name:	N/A
Current, Lawfully established, use:	Residential Dwelling	Location of building within site/block number:	1.7m from south-western boundary
Level/unit number:	Single Level	Intended life of the building if 50 years or less:	Indefinite, but not less than 50 years
Legal description of land where building is located:	LOT 7 DP 47674	Year first constructed:	1987
The Owner			
Name of owner:	Mr L Senior	Street address /registered office:	N/A
Contact person:	As above	Phone numbers:	
Mailing address:	87 Huia Street Waikanae 5036	Landline:	-
Email address:	-	Mobile:	027 319 7547
Website:	-	Daytime:	-
		After hours:	-
		Facsimile number:	-
First point of contact for communications with the Kapiti Coast District Council:			
As above			
Building Work			
Building Consent No:	020392	Issued by:	Kapiti Coast District Council
Project Description:	Garage Addition To Dwelling		

Code Compliance

The building consent authority named below is satisfied, on reasonable grounds, that:

- (a) the building work complies with the building consent

Michelle Salmon –
Building Inspections Team Leader
On behalf of **Kapiti Coast District Council**

Date: 06 June 2018

06 June 2018

The Chief Executive
Ministry of Business, Innovation and Employment
PO Box 10-729
Wellington 6143

Dear Sir/Madam

Notification of Modification or Waiver to Building Consent: 020392

Site Address: 87 HUIA STREET, WAIKANAE
Legal Description: LOT 7 DP 47674
Project Description: GARAGE ADDITION TO DWELLING

This letter is to notify you, under section 68 of the Building Act 2004, that Kāpiti Coast District Council has granted a modification to the requirements of the Building Code for the above Building Consent.

The modification was granted with respect to clause B2.3.1 from 26/06/2002 instead of from the time of issue of the code of compliance certificate.

Yours sincerely



Leon Smith
Team Leader Building Approvals

SITE CHECK SHEET

NAME: Mr L. Senior
 SITE ADDRESS: 87 Huia St, Waikanae LOT: 7 DP: 47674
 PROJECT: Garage Addition to Dwg CONSENT NO: 020392
 BUILDER: CONTACT NO:

*WORK CANNOT PROCEED PAST EACH STEP UNTIL THAT STEP HAS BEEN INSPECTED,
 APPROVED AND THIS FORM SIGNED BY THE RELEVANT INSPECTOR*

FOUNDATIONS

Date: 16-5-02 Officer: BA MC

Approved building consent documents on site: YES / NO

SITING:

Front yard Rear yard Minimum floor level Pile hole size Anchor pile size Pile hole spacing	<input type="checkbox"/> Left hand side yard <input checked="" type="checkbox"/> Right hand side yard <input checked="" type="checkbox"/> Footing size <input type="checkbox"/> Footing reinforcing <input type="checkbox"/> Subfloor vents <input type="checkbox"/> Steps/stairs	<input checked="" type="checkbox"/> Conforms with approved plan <input type="checkbox"/> If no, has new site plan been requested <input checked="" type="checkbox"/> Foundation wall reinforcing <input checked="" type="checkbox"/> Foundation wall size <input type="checkbox"/> Specific design <input type="checkbox"/> If yes, has Engineer inspected	YES/NO YES/NO YES/NO YES/NO YES/NO
--	--	---	--

Has a Site Instruction been issued?	Yes/No	Instruction No:
Is a reinspection required?	Yes/No	Proposed date of follow up inspection
Labels in place?	Yes/No	Producer Statement Yes/No/NA

COMMENTS

SINGLE POUR: FOUNDATION & SLAB DPC, & STEELING
PLACED AS REQUIRED, CONCRETE SLAB REMAINS UNDER.

PRE-SLAB

PLUMBING AND DRAINAGE: Date: Officer:

UNDERSLAB PLUMBING

Pipe sizes ☐
Falls ☐
Pipe protection ☐

UNDERSLAB DRAINAGE

Pipe sizes ☐
Falls ☐
Pipe protection ☐

Has a **Site Instruction** been issued? Yes/No Instruction No:

Is a reinspection required? Yes/No Proposed date of follow up inspection

Labels in place? Yes/No Producer Statement Yes/No/NA

COMMENTS

BUILDING

Date: Officer:

Minimum floor level ☐
DPC ☐
Joints taped ☐
Penetrations ☐
Specific design Yes / No
If yes, has Engineer inspected Yes / No

Mesh ☐
Mesh chairs ☐
Slab thickening ☐
Bottom plate fixings ☐

Has a **Site Instruction** been issued? Yes/No Instruction No:

Is a reinspection required? Yes/No Proposed date of follow up inspection

Labels in place? Yes/No Producer Statement Yes/No/NA

COMMENTS

SUBFLOOR

Date: Officer:

Ord pile fixings
Anchor pile bolts
Brace pile bolts and washers
Timber treatment
Subfloor framing
Subfloor beams/bearers

Subfloor bracing
Joists - size/spacing/fixing
Cant. Joists - lth/size/spc
Solid blocking - spacing
Notching, holes etc
Proprietary connections

Has a **Site Instruction** been issued? Yes/No

Instruction No:

Is a reinspection required? Yes/No

Proposed date of follow up inspection.....

Labels in place? Yes/No

Producer Statement Yes/No/NA

COMMENTS

EXTERIOR CLADDING

Solid Plaster/Textured Finish: Date: Officer:

Rigid backing
Non rigid backing
Building paper
Battens (non rigid)
Cavity (non rigid)
Sheet set out (Hardies)

Reinforcement
Spacers
Nailing (Hardies)
Flashings
Control joints

Has a **Site Instruction** been issued? Yes/No

Instruction No:

Is a reinspection required? Yes/No

Proposed date of follow up inspection

Producer Statement Yes/No/NA

COMMENTS

PRELINE

PLUMBING AND DRAINAGE: Date: Officer:
Plumber:

Pressure test
Visual leak check
Pipe support/clips
Pipe size
Pipe material

Joint strain
Pipe insulation
Stacks
Wastes
Supply tank

Has a **Site Instruction** been issued? Yes/No

Instruction No:

Is a reinspection required? Yes/No

Proposed date of
follow up inspection

- Preline Labels in place? Yes/No

Producer Statement Yes/No/NA

COMMENTS

BUILDING

Date: 26/6/02 Officer: BMC

Timber treatment
~~Ceiling diaphragm~~
Dragon ties
Studs - size/spacing
Wall insulation
Posts - size/fixing
Lintels/bms - size/fixings
Ext joinery - labels
Ceiling runners
* Wall bracing
Mech ventilation
Moisture Content Walls

✓
✓

%

Bracing straps
Timber grade
Wall dwangs
Trimming studs
Truss/rafter - fix/space
Ceiling joists
Plate fixings
Ventilation
Ceiling battens
Check exterior claddings

Ceiling

%

Has a **Site Instruction** been issued? Yes/No

Instruction No:

Is a reinspection required? Yes/No

Proposed date of
follow up inspection

Preline Labels in place? Yes/No

Producer Statement Yes/No/NA

COMMENTS

RECHECK REQUIRED ALL BRACING ELEMENTS

POSTLINE

Date: Officer:

Sheets nailed as per your schedule

☐

Insulation to walls

☐

Has a **Site Instruction** been issued? Yes/No

Instruction No:

Is a reinspection required? Yes/No

Proposed date of
follow up inspection

Postline Label in place? Yes/No

COMMENTS

DRAINS

Drainlayer: Date: Officer:

Drain depth

Subsoil drains

Pipe material

Disposal field

Drains under building

Connection to main

Pipe supports

Manhole - structure

Lamp holes

Drain test

Gully traps

Granular bedding

Terminal vents

Even gradient/line

Soil stack

Manhole - haunching

Inspection/bends

SW to kerb

Sumps

Has a **Site Instruction** been issued? Yes/No

Instruction No:

Is a reinspection required? Yes/No

Proposed date of
follow up inspection

Producer Statement Yes/No/NA

COMMENTS

MISCELLANEOUS INSPECTIONS

Blockfill: Date: Officer:

Reinforcing <input type="checkbox"/>	Cavities cleared <input type="checkbox"/>
Engineers design Yes/No	
If yes, has engineer checked Yes/No	

Has a **Site Instruction** been issued? Yes/No Instruction No:

Is a reinspection required? Yes/No Proposed date of follow up inspection

Producer Statement Yes/No/NA

COMMENTS

Retaining Walls

Siting <input type="checkbox"/>	Subsoil drainage <input type="checkbox"/>
Stretchers <input type="checkbox"/>	Post Holes <input type="checkbox"/>
Deadmen <input type="checkbox"/>	Retaining components <input type="checkbox"/>
Poles/posts <input type="checkbox"/>	Tie bars <input type="checkbox"/>
Footing <input type="checkbox"/>	Headers <input type="checkbox"/>
Engineers design/supervision <input type="checkbox"/>	

Has a **Site Instruction** been issued? Yes/No Instruction No:

Is a reinspection required? Yes/No Proposed date of follow up inspection

Producer Statement Yes/No/NA

COMMENTS

Solid Fuel Heaters

Chimney Check <input type="checkbox"/>	Flue height <input type="checkbox"/>
Seismic fixing <input type="checkbox"/>	Hearth <input type="checkbox"/>
Flue flashing <input type="checkbox"/>	Clearances <input type="checkbox"/>
Flue <input type="checkbox"/>	Ceiling plate <input type="checkbox"/>
Mantel shelf <input type="checkbox"/>	

Has a **Site Instruction** been issued? Yes/No Instruction No:

Is a reinspection required? Yes/No Proposed date of follow up inspection

COMMENTS

FINAL INSPECTION

Building Exterior

CHECK PLANS

Subfloor - ventilation	<input type="checkbox"/>	Flashings - roof penet	<input type="checkbox"/>	Gulley dishes	<input type="checkbox"/>
Decks - structure	<input type="checkbox"/>	hips	<input type="checkbox"/>	Wastes to gullys	<input type="checkbox"/>
Balustrades - design	<input type="checkbox"/>	valleys	<input type="checkbox"/>	Terminals vents	<input type="checkbox"/>
height	<input type="checkbox"/>	gables	<input type="checkbox"/>	Spouting - Downpipes	<input type="checkbox"/>
Steps/Stairs - design	<input type="checkbox"/>	flues	<input type="checkbox"/>	Landscaping & ground levels	<input type="checkbox"/>
handrail	<input type="checkbox"/>	Cladding (ground clearance)	<input type="checkbox"/>	Texture Coating Warranty	<input type="checkbox"/>
Flashings - windows	<input type="checkbox"/>	Roofing & Fixings	<input type="checkbox"/>		
		(roofing warranty)			

Building Interior

CHECK FITTINGS

Service area floors & walls	<input type="checkbox"/>	Food storage	<input type="checkbox"/>	Water temperature	<input type="checkbox"/>
Stair design	<input type="checkbox"/>	Nat. ventilation	<input type="checkbox"/>	Solid fuel heater	<input type="checkbox"/>
Handrails	<input type="checkbox"/>	Mech. Ventilation	<input type="checkbox"/>	Supply tank	<input type="checkbox"/>
Barriers	<input type="checkbox"/>	Insulation	<input type="checkbox"/>	Trap seals & AA Valves	<input type="checkbox"/>
Lightings	<input type="checkbox"/>	Hot water cylinder flues	<input type="checkbox"/>	Cistern flushing	<input type="checkbox"/>
Laundering	<input type="checkbox"/>	Hot water cylinder valves	<input type="checkbox"/>	WC pan connection	<input type="checkbox"/>
Cooking facilities	<input type="checkbox"/>	Hot water cylinder rest	<input type="checkbox"/>	Septic Tank	<input type="checkbox"/>
		Tempering valve	<input type="checkbox"/>	(engineers inspc report)	
				Windows - labels	<input type="checkbox"/>
				Safety glass	<input type="checkbox"/>

Footpath crossing installed	Yes/No	Berm damaged	Yes/No
Refund crossing deposit	Yes/No	Engineering site reports required	Yes/No
Stormwater & site drainage appear satisfactory	Yes/No	Engineering site reports received	Yes/No

Has a Site Instruction been issued? Yes/No NTR Instruction No.

Producer Statement Yes/No/NA

OK to issue final code compliance certificate. Yes/No

If an interim certificate is issued please list proposed conditions on the reverse of this form.

Is a reinspection required? Yes/No Proposed date of follow up inspection

Comments:



Building Consent

Section 35, Building Act 1991

Application

MR L SENIOR
87 HUIA STREET
WAIKANAЕ

No.	020392
Issue date	6/05/02
Application date	9/04/02
Overseer	Barrie McLennan

Project

Description	Alterations, Repairs or Extensions Being Stage 1 of an intended 1 Stages GARAGE ADDITION TO DWELLING
Intended Life	Indefinite, but not less than 50 years
Intended Use	RESIDENTIAL
Estimated Value	\$20,000
Location	87 HUIA STREET, WAIKANAЕ
Legal Description	LOT 7 DP 47674
Valuation No.	1496040700

Charges

The Council's charges paid on uplifting this Building Consent, in accordance with the attached details are:

	\$	942.50
Building Research Levy	\$	20.00
Building Industry Authority Levy	\$	13.00
Total	\$	975.50

PAID

This building consent is a consent under the Building Act 1991 to undertake building work in accordance with the attached plans and specifications so as to comply with the provisions of the building code. It is not a consent under the Resource Management Act and does not affect any duty or responsibility under any other Act nor permit any breach of any other Act.

Signed for and on behalf of the Council:

Name:

[Signature]

Date:

6.5.02

Addenda to Application

Application

MR L SENIOR
87 HUIA STREET
WAIKANAЕ

No.

020392

Project

Description	Alterations, Repairs or Extensions Being Stage 1 of an intended 1 Stages GARAGE ADDITION TO DWELLING
Intended Life	Indefinite, but not less than 50 years
Intended Use	RESIDENTIAL
Estimated Value	\$20,000
Location	87 HUIA STREET, WAIKANAЕ
Legal Description	LOT 7 DP 47674
Valuation No.	1496040700

Builder:

P & D BUILDERS 19 RIMU STREET WAIKANAЕ

General Requirements

- a) The District Inspector is to be given 24 hours' notice before carrying out the following inspections:
1. FOUNDATION INSPECTION
 2. PRELINING INSPECTION, MOISTURE TEST, CHECK BRACING
 3. POST-LINING INSPECTION, LININGS, FIXED AS PER BRACE DESIGN
 4. FINAL INSPECTION BUILDING
- b) To arrange for any of the above required inspections by the District Inspector, please contact the building inspectorate on (04) 902 2845 between the hours of 8.00am and 4.30pm.

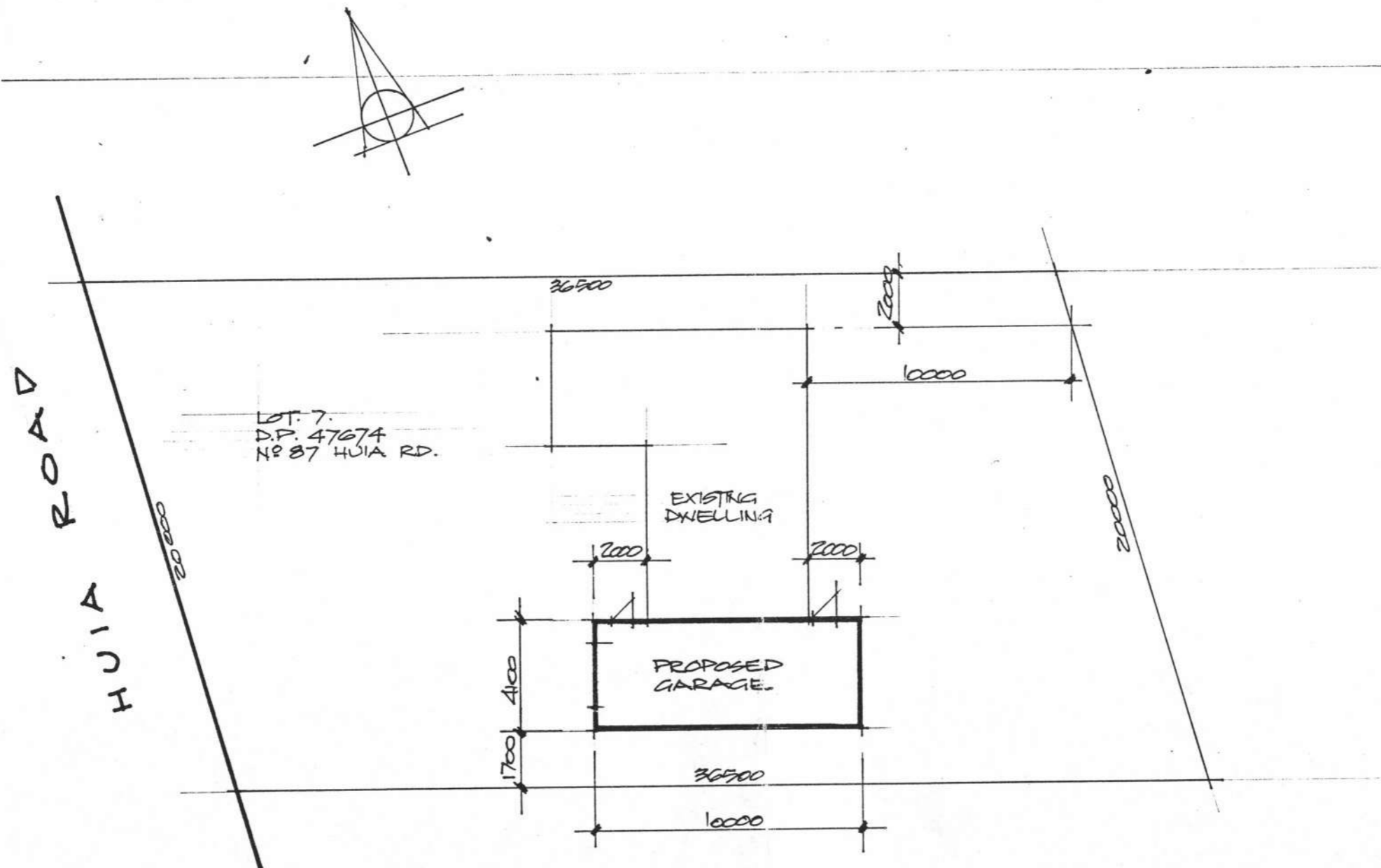
1. LAPSE AND CANCELLATION OF BUILDING CONSENT. A building consent shall lapse and be of no effect if the building work concerned has not been commenced within 6 calendar months after the date of issue. Or within such further period as the territorial authority allows.
2. All foundations are to be to solid bearing minimum of 300mm
3. NZS3604 is an Acceptable Solution in terms of the New Zealand Building Code and is a recommended reference document for timber framed buildings.
4. Not approved as a habitable room.
5. Metal head flashings required over all exterior joinery.
6. Note and comply with endorsements on approved plans.
7. Roof stormwater to be connected to existing water disposal system.
8. Minimum heights of finished concrete slab-on-ground floors above adjoining finished ground level to comply with the current NZS3604.
9. Provide from your Contractor a roof warranty covering the product and its installation.

I have read the foregoing requirements, and the Owner/Builder/Authorised Person hereby agrees to comply with them.

OWNER/BUILDER/
AUTHORISED PERSON

(Pasted)

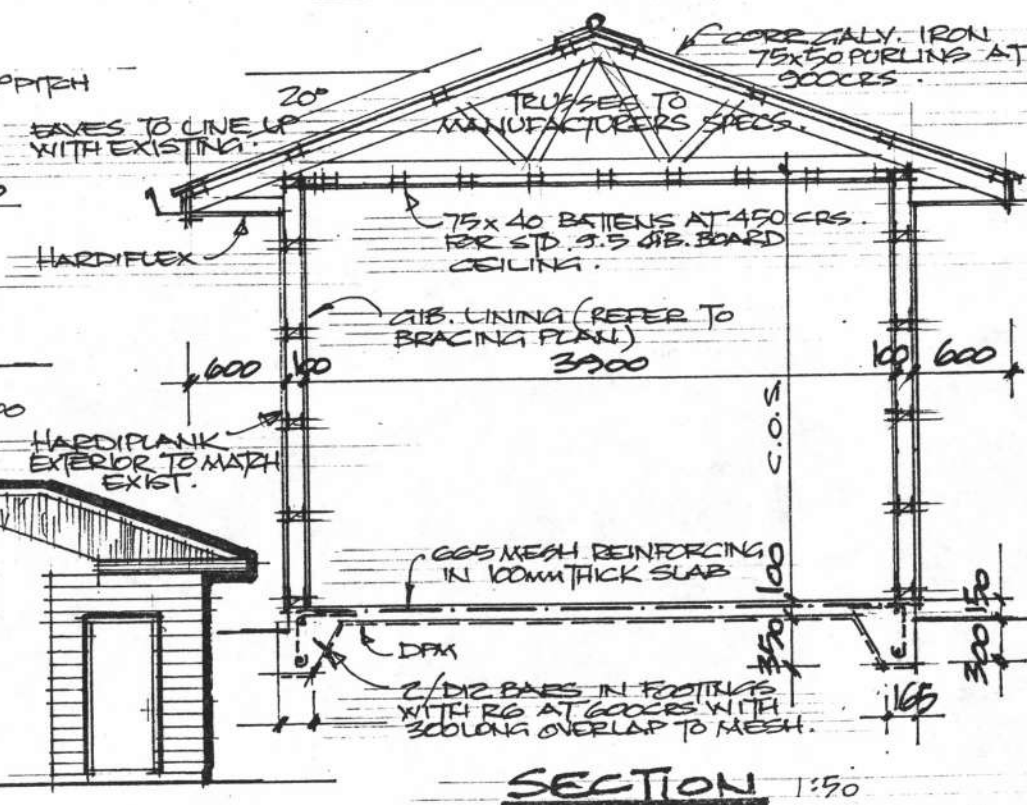
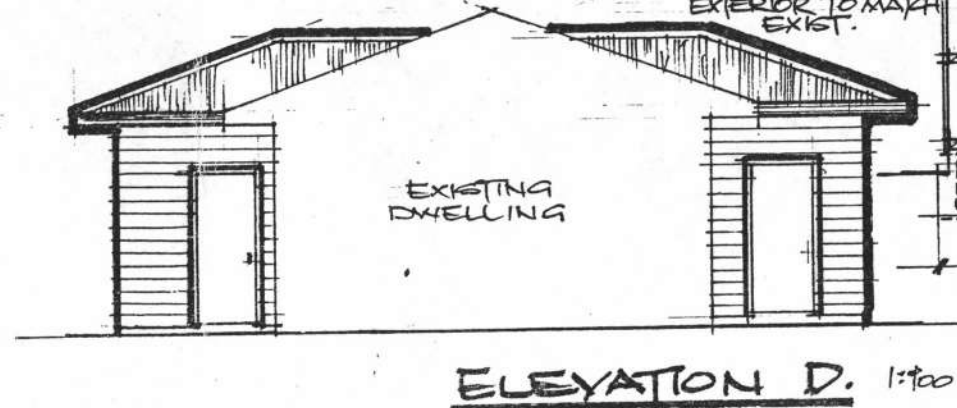
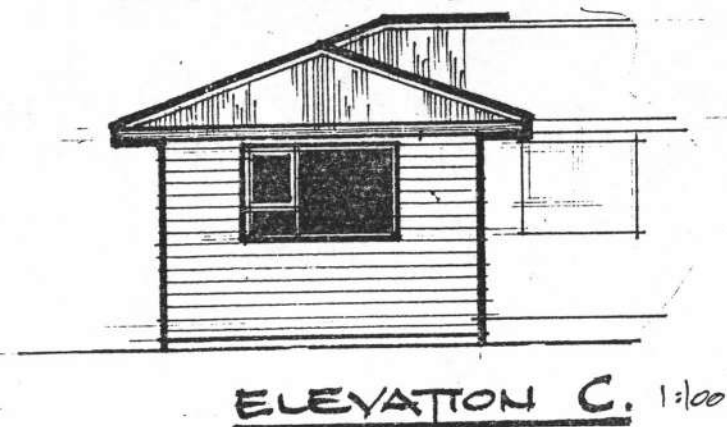
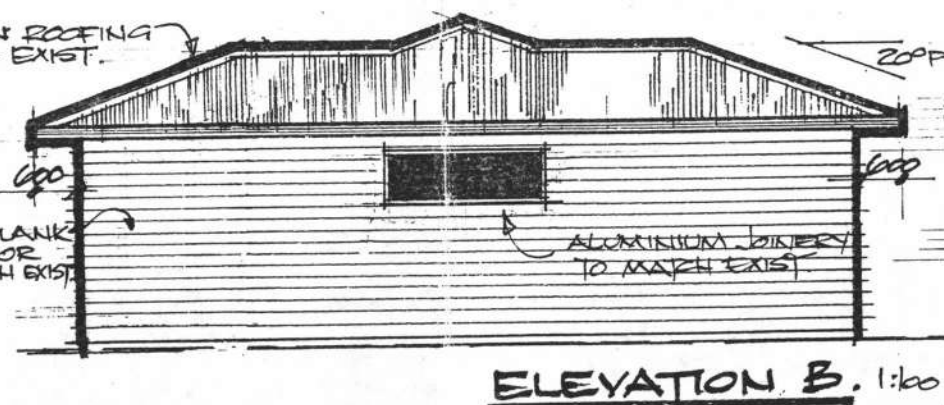
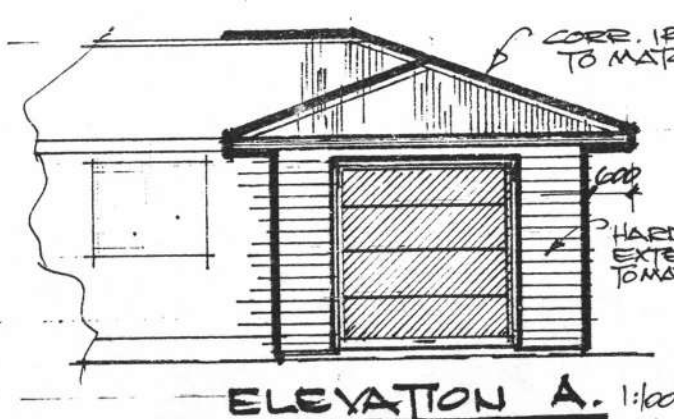
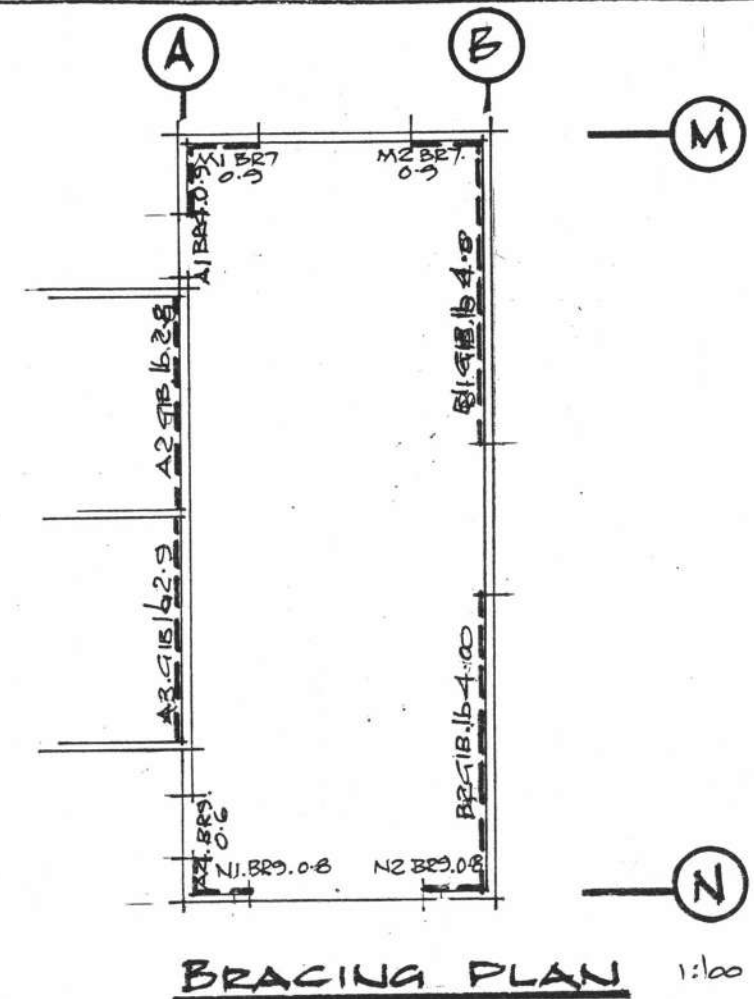
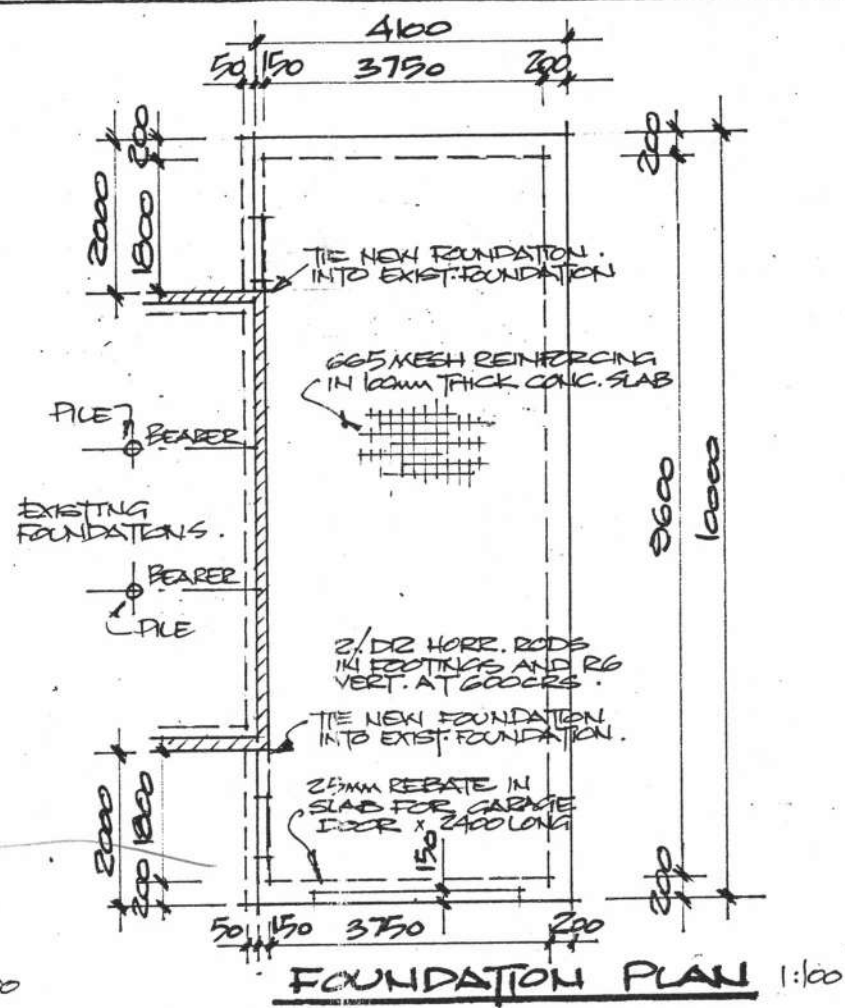
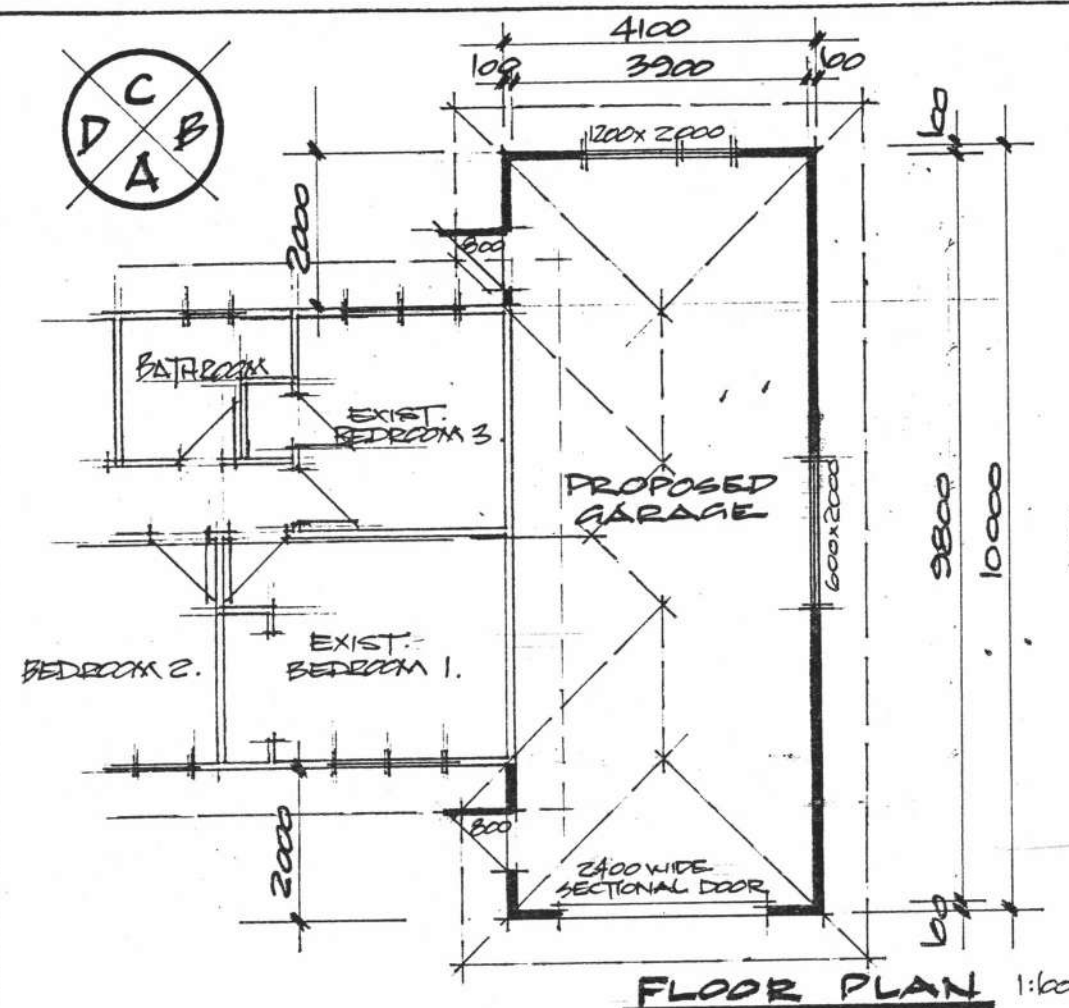
Date: 6.5.02



SITE PLAN / DRAINAGE PLAN

PROPOSED NEW GARAGE FOR MR. L. SENIOR
LOT 7 D.P. 47674 87 HUIA ROAD - WAIKANAE

DRAWN BY: P. YODWALD	DRAWING NO:
DATE: 9.2.02	
SCALE: 1:200	
CHKD.:	



PROPOSED NEW GARAGE FOR MR. L. SENIOR
LOT. 7 D.P. 47674 87 HUIA ROAD - WAIKANA E

DRAWN BY : P.YADVALD

DATE: 9-2-02

SCALE: 1:00. 1:50

CHKD.:

DRAWING NO:

Wall Bracing Calculation Sheet A**Job Details**

box 1

Name L. SENIOR

Street and Number 87 HUIA ROAD

Lot and DP Number LOT. 7. D.P. 47674

City/Town/District WAIKANA E

Location of Storey: single/upper of two/lower of two Floor load: 2kPa/3kPa

Building height to apex 4.0 m ✓ Roof weight light/heavy

Roof height above eaves 1.2 m ✓ Cladding weights: Subfloor light/medium/heavy

Stud height 2.7 m ✓ Lower Storey light/medium/heavy

Average roof pitch 20° Upper Storey light/medium/heavy

Building length BL = 10 m ✓ Room in Roof Space Yes / No

Gross Building

Building width BW = 4.1 m ✓ Plan Area, GPA = 41 m² ✓

Note: When the average roof pitch is over 25 degrees, use the eaves length and width to determine BL and BW.

Note: For heavy roofs use the roof plan at eaves level to determine GPA.

Wind Zone

box 2

Region: R1 0 ✓ Terrain: Inland 0 ✓ Exposure: Sheltered 0 ✓ Topography: Gentle 0 ✓

R2 1 Coastal 1 Exposed 1 Moderate 1 ✓ Extreme 3

Total points _____

Wind Zone: _____ Low (0) _____ Very high (3) ✓

_____ Medium (1) _____ Specific Design (4)

_____ High (2)

Earthquake Zone

box 3

From figure EQ1 select Earthquake Zone: (A) B C

BU's required Wind

box 4

From Table W1A/W1B

W along = 52 BU's/m

W across = 39 BU's/m

Total wind load,

W ALONG:

W along x BW = 213 BU's

W ACROSS

W across x BL = 390 BU's

BU's required Earthquake

box 5

From Table EQ1/EQ2/EQ3/EQ4/EQ5/EQ6

E = 6.7 BU's/m²

Note: For a room in the roof space use E + 3

Total earthquake load,

EQ ALONG and EQ ACROSS

E x GPA BU's = 275 BU's

Wall Bracing Calculation Sheet B**Along**

Wall or Bracing Line		Bracing Elements Provided			Wind		Earthquake	
1	2	3	4	5	6 W	7 W	6 E	7 E
Line Label	Minimum BU's Required	Bracing Element No.	Bracing Type	Length Element (m) L	Rating BU/m W	BU's Achieved (BU/m x L) W	Rating BU/m E	BU's Achieved (BU/m x L) E
A		A1	BR4.	0.9	100	90	85	76
		A2	GIB 1b	2.8	75	210	50	140
		A3	GIB 1b	2.9	75	217	50	145
		A4	BR3	0.6	110	66	95	57
B		B1	GIB 1b	4.0	75	300	50	200
		B2	GIB 1b	4.0	75	300	50	200
C								
D								
E								

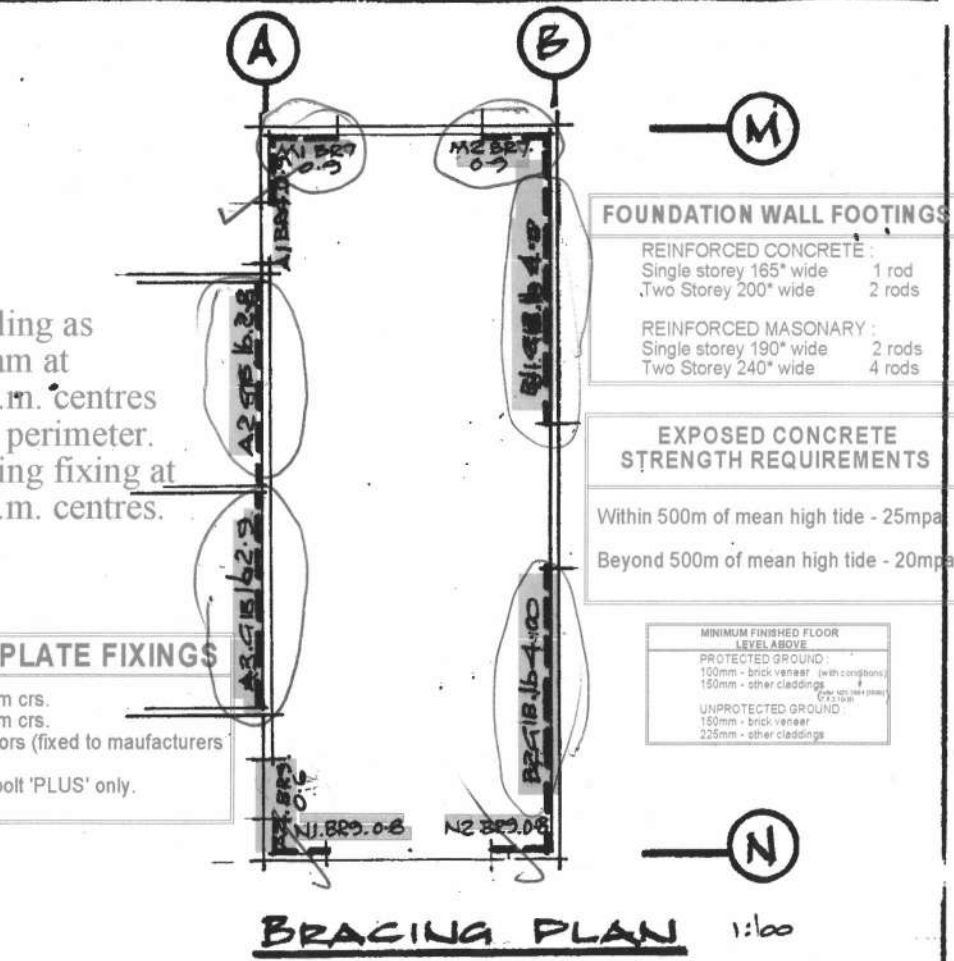
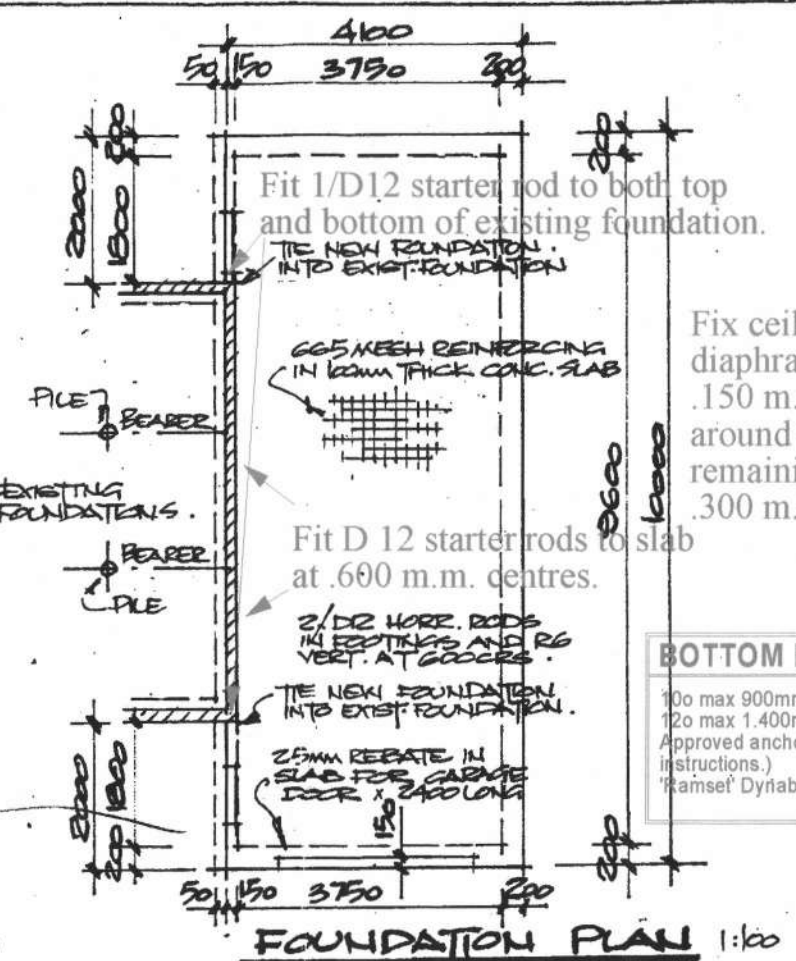
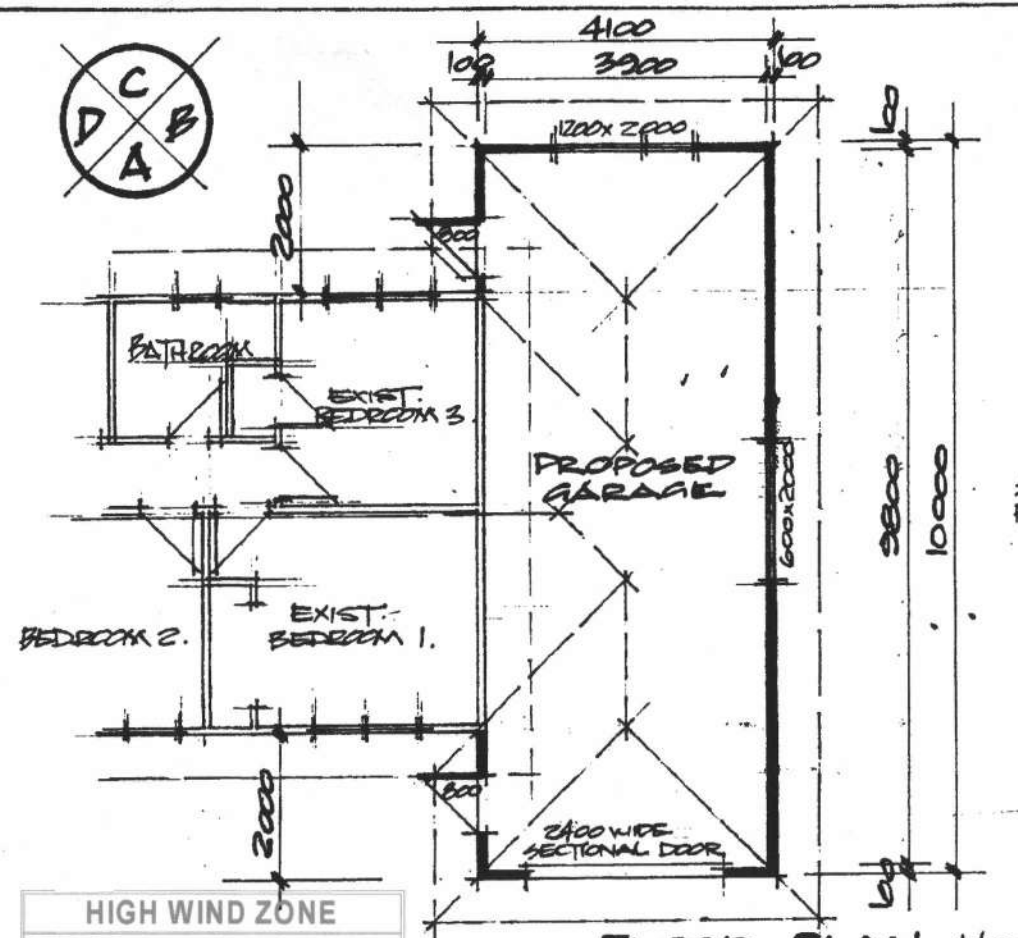
Totals Achieved		W	1183	E	818
From Sheet A Totals Required		W	213	E	275
Wreq/Ereq =					

*If Wreq/Ereq is 1 or less complete E column only
If Wreq/Ereq is 1.5 or more complete W column only
Otherwise complete both W and E

Across

Wall or Bracing Line		Bracing Elements Provided			Wind		Earthquake	
1	2	3	4	5	6 W	7 W	6 E	7 E
Line Label	Minimum BU's Required	Bracing Element No.	Bracing Type	Length Element (m) L	Rating BU/m W	BU's Achieved (BU/m x L) W	Rating BU/m E	BU's Achieved (BU/m x L) E
M		M1	BR7	0.9	145	131	145	131
		M2	BR7	0.9	145	131	145	131
N		N1	BR9	0.8	110	88	95	76
		N2	BR9	0.8	110	88	95	76
O								
P								
Q								

Totals Achieved		W	438	E	414
From Sheet A Totals Required		W	390	E	275
Wreq/Ereq =					



FOUNDATION WALL FOOTINGS

REINFORCED CONCRETE:	
Single storey 165" wide	1 rod
Two Storey 200" wide	2 rods
REINFORCED MASONRY:	
Single storey 190" wide	2 rods
Two Storey 240" wide	4 rods

EXPOSED CONCRETE STRENGTH REQUIREMENTS

Within 500m of mean high tide - 25mpa
Beyond 500m of mean high tide - 20mpa

MINIMUM FINISHED FLOOR LEVEL ABOVE

PROTECTED GROUND:	
100mm - brick veneer (with cladding)	100mm
150mm - other cladding	150mm
UNPROTECTED GROUND:	
150mm - brick veneer	150mm
225mm - other cladding	225mm

HIGH WIND ZONE
2' Z' Nails to truss / rafter and external wall top plates (light roof).
Standard framing to NZS 3604 stud tables.
Fixings in accordance with nailing schedule.

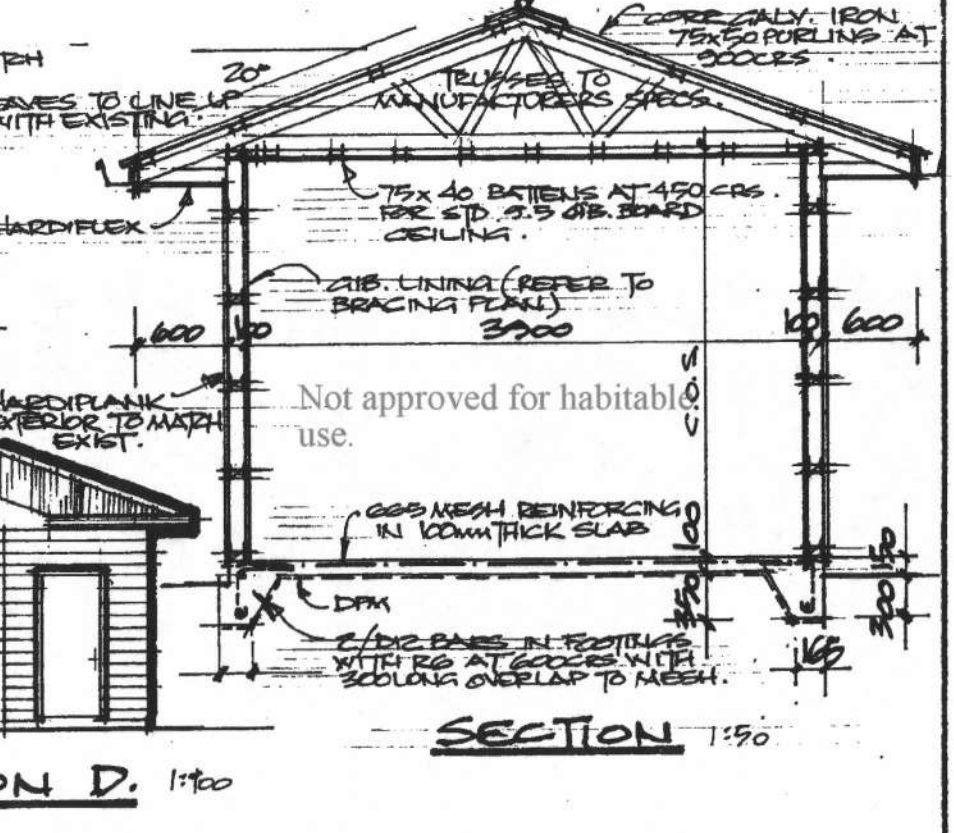
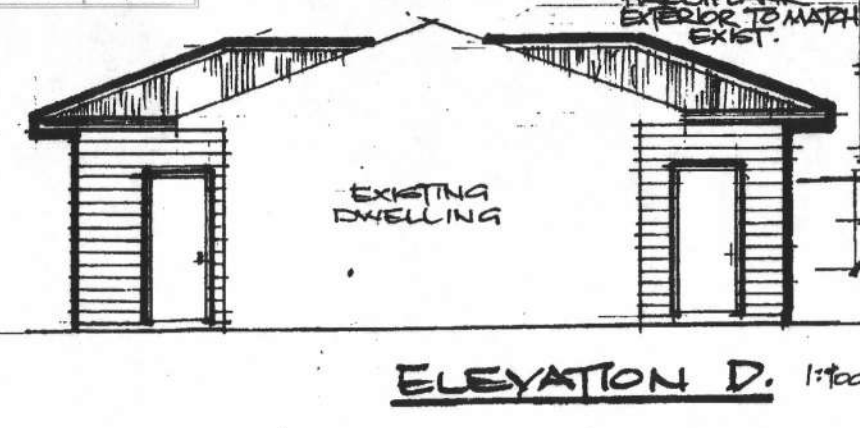
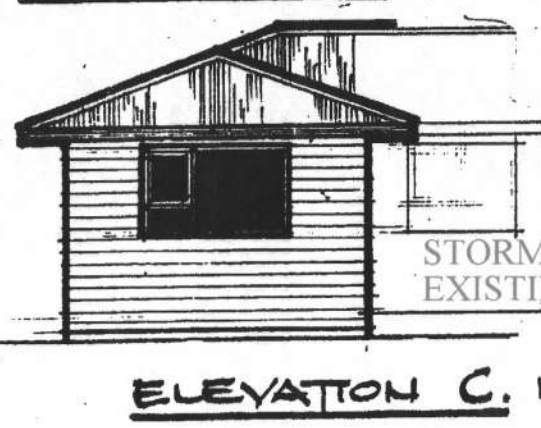
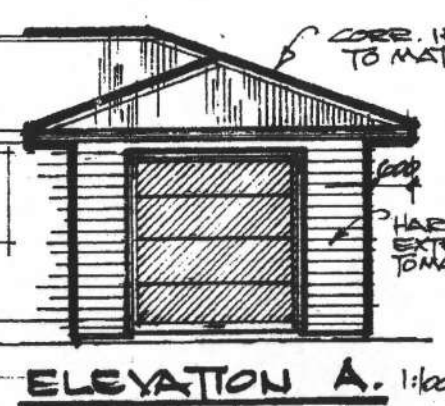
APPROVED BY BUILDING
Don Blaikie
Officer

15/04/02

APPROVED BY PLANNING
Arnold Hawkins
Officer

11/04/2002

APPROVED BY P & D
Arnold Hawkins
Officer



PROPOSED NEW GARAGE FOR MR. L. SENIOR
LOT. 7 D.P. 47674 87 HUIA ROAD - WAIKANAE

DRAWN BY: P. DYDAVD	DRAWING NO:
DATE: 9-2-02	
SCALE: 1:100, 1:50	
CHKD.:	

Please Photocopy

Wall Bracing Calculation Sheet A

Job Details

box 1

Name L. SENIOR

Street and Number 87 HUIA ROAD

Lot and DP Number LOT. 7. D.P. 47674

City/Town/District WAIKANAE

Location of Storey: single/upper of two/lower of two Floor load: 2kPa/3kPa

Building height to apex 4.0 m Roof weight light/heavy

Roof height above eaves 1.2 m Cladding weights: Subfloor light/medium/heavy

Stud height 2.7 m Lower Storey light/medium/heavy

Average roof pitch 20° Upper Storey light/medium/heavy

Building length BL = 10 m Room in Roof Space Yes / No

Gross Building

Building width BW = 4.1 m Plan Area, GPA = 41 m²

Note: When the average roof pitch is over 25 degrees, use the eaves length and width to determine BL and BW.

Note: For heavy roofs use the roof plan at eaves level to determine GPA.

Wind Zone

box 2

Region: R1 0 ✓ Terrain: Inland 0 ✓ Exposure: Sheltered 0 ✓ Topography: Gentle 0 ✓

R2 1 Coastal 1 Exposed 1 Moderate 1 ✓ Extreme 3

Total points _____

Wind Zone: _____ Low (0) _____ Very high (3) ✓

_____ Medium (1) _____ Specific Design (4)

_____ High (2)

Earthquake Zone

box 3

From figure EQ1 select Earthquake Zone: (A) B C

BU's required Wind

box 4

From Table W1A/W1B

W along = 52 BU's/m

W across = 39 BU's/m

Total wind load,

W ALONG:

W along x BW = 213 BU's

W ACROSS

W across x BL = 390 BU's

BU's required Earthquake

box 5

From Table EQ1/EQ2/EQ3/EQ4/EQ5/EQ6

E = 6.7 BU's/m²

Note: For a room in the roof space use E + 3

Total earthquake load,

EQ ALONG and EQ ACROSS

E x GPA BU's = 275 BU's

Fix perimeter of ceiling as diaphragm
at .150 m.m. centres and remaining
fixing at .300 m.m. centres.

Please Photocopy

Wall Bracing Calculation Sheet B

Along

Wall or Bracing Line		Bracing Elements Provided			Wind		Earthquake	
1	2	3	4	5	6 W	7 W	6 E	7 E
Line Label	Minimum BU's Required	Bracing Element No.	Bracing Type	Length Element (m) L	Rating BU/m	BU's Achieved (BU/m x L)	Rating BU/m	BU's Achieved (BU/m x L)
					W	W	E	E
A		A1	BR4	0.9	100	90	85	76
		A2	GIB 1b	2.8	75	210	50	140
		A3	GIB 1b	2.9	75	217	50	145
		A4	BR9	0.6	110	66	95	57
B		B1	GIB 1b	4.0	75	300	50	200
		B2	GIB 1b	4.0	75	300	50	200
C								
D								
E								

Totals Achieved		W	1183	E	818
From Sheet A Totals Required		W	213	E	275
Wreq/Ereq =					

*If Wreq/Ereq is 1 or less complete E column only
If Wreq/Ereq is 1.5 or more complete W column only
Otherwise complete both W and E

Across

Wall or Bracing Line		Bracing Elements Provided			Wind		Earthquake	
1	2	3	4	5	6 W	7 W	6 E	7 E
Line Label	Minimum BU's Required	Bracing Element No.	Bracing Type	Length Element (m) L	Rating BU/m	BU's Achieved (BU/m x L)	Rating BU/m	BU's Achieved (BU/m x L)
					W	W	E	E
M		M1	BR7	0.9	145	131	145	131
		M2	BR7	0.9	145	131	145	131
N		N1	BR9	0.8	110	88	95	76
		N2	BR9	0.8	110	88	95	76
O								
P								
Q								

Totals Achieved		W	438	E	414
From Sheet A Totals Required		W	390	E	275
Wreq/Ereq =					

Project Information Memorandum

Section 31, Building Act 1991

Application

MR L SENIOR
87 HUIA STREET
WAIKANAE

No.	020392
Issue date	17/04/02
Application date	9/04/02
Overseer	Barrie McLennan

Project

Description	Alterations, Repairs or Extensions Being Stage 1 of an intended 1 Stages GARAGE ADDITION TO DWELLING
Intended Life	Indefinite, but not less than 50 years
Intended Use	RESIDENTIAL
Estimated Value	\$20,000
Location	87 HUIA STREET, WAIKANAE
Legal Description	LOT 7 DP 47674
Valuation No.	1496040700

This project information memorandum is confirmation that the proposed building work may be undertaken, subject to the provisions of the Building Act 1991, and any requirements of the building consent.

This project information memorandum includes:

- ___ Information identifying relevant special features of the land concerned
- ___ Details of relevant utility systems
- ___ Details of authorisations which have been granted

Signed for and on behalf of the Council:

Name: 

Date: 17.4.02

PROJECT INFORMATION MEMORANDUM

Application Details

Applicant Name MR L SENIOR
Applicant Address 87 HUIA STREET
WAIKANAE
Applicant Phone
Location 87 HUIA STREET, WAIKANAE
Legal Description LOT 7 DP 47674
Proposal NEW GARAGE

Planning Requirements

Use permitted Permitted activity
Resource Consent granted None listed
Designations on property None listed
Easements None listed
Site subject to inundation Not known to be
Coastal building line restriction N/A
relocatable zone N/A
Min floor level (50 year event) N/A
Recommended minimum
Floor level (100 year event) N/A
Yard and height requirements Comply
Tree/building preservation None listed
Other comments

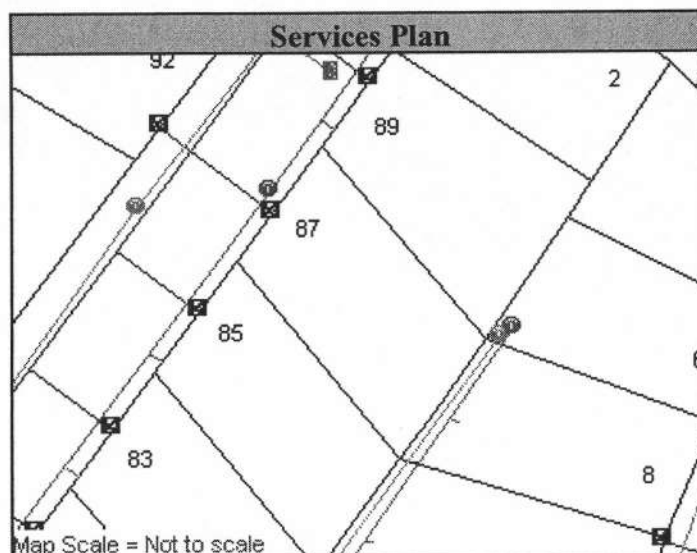
Note: Minimum floor levels must use Mean Sea Level Wellington Datum 1953. Certification that the floor level complies with the minimum floor level will be required from a registered surveyor prior to foundation inspection.

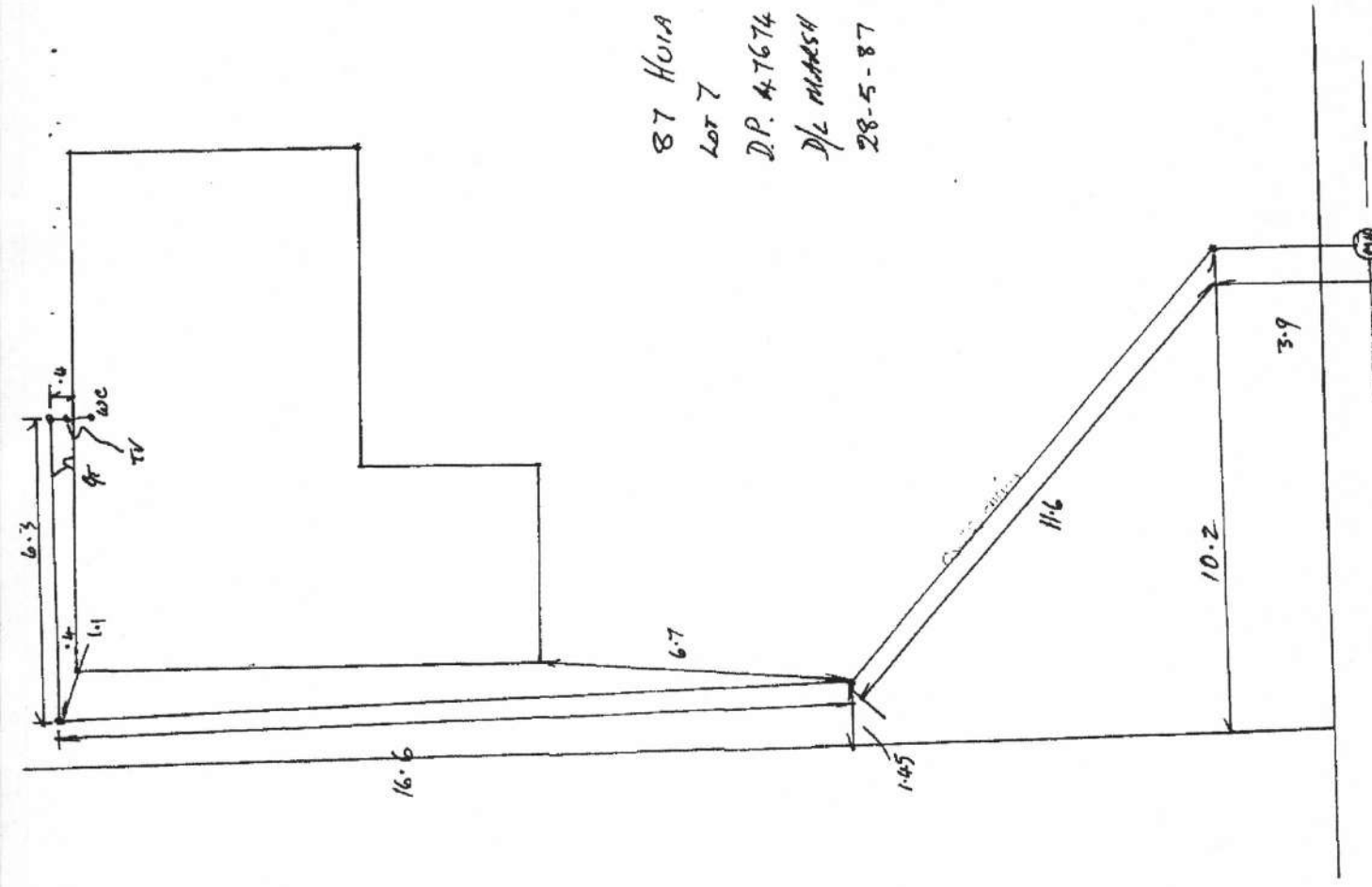
Special Features of the Land

<u>Potential erosion</u>	NO
<u>Potential avulsion</u>	NO
<u>Potential subsidence</u>	NO
<u>Potential slippage</u>	NO
<u>Potential alluvion</u>	NO
<u>Potential inundation</u>	NO
<u>Hazardous contaminants</u>	NONE KNOWN
<u>Other features</u>	

Plumbing and Drainage Details

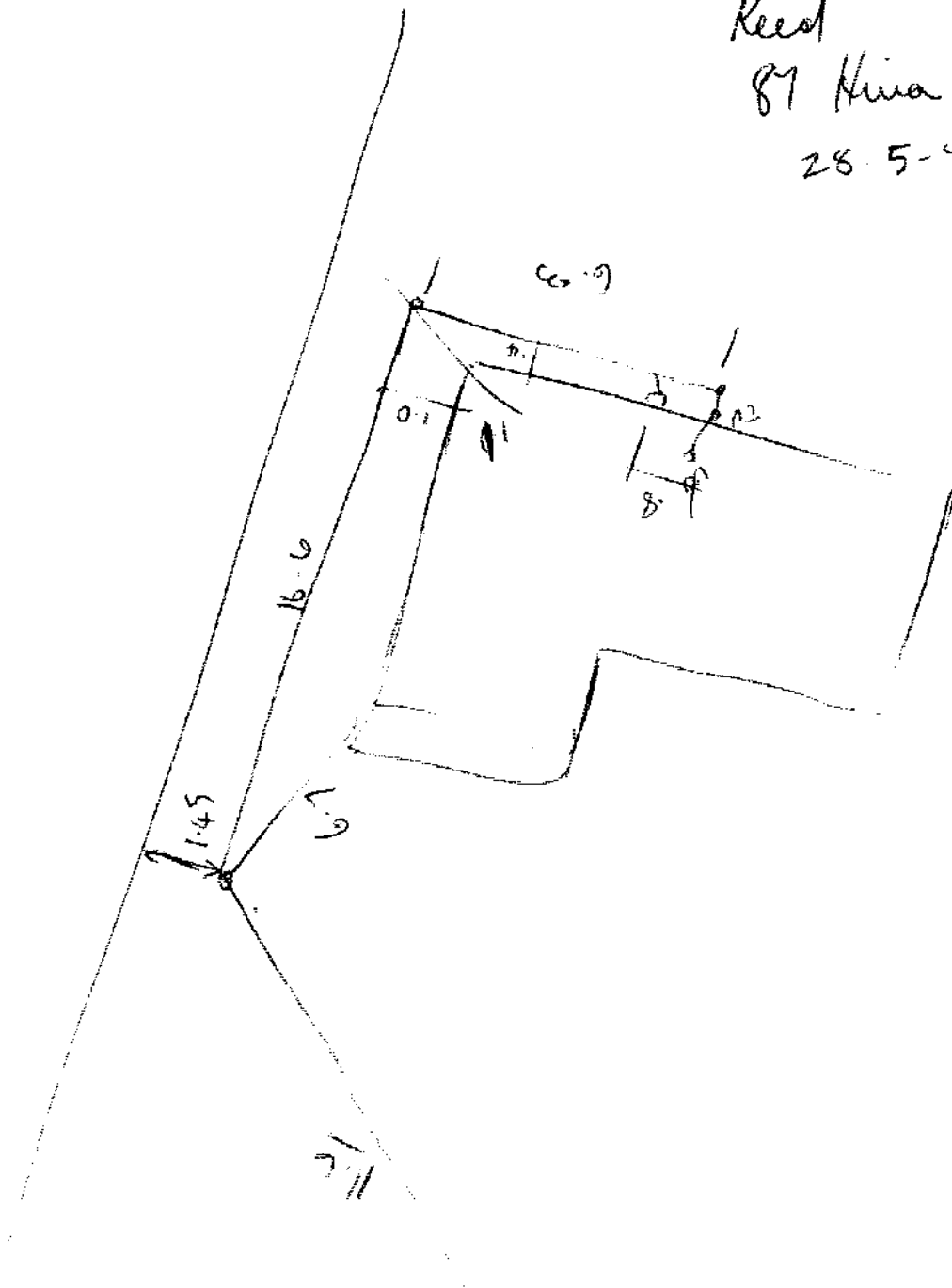
<u>Sewer available / connected</u>	Connected
<u>Water available / connected</u>	Connected
<u>Plan of existing services (if any)</u>	See attached
<u>Location of sewer lateral</u>	
<u>Location and size of water toby</u>	
<u>Location of easements (if any)</u>	No easements
<u>Location of public drains (if any)</u>	N/A
<u>Stormwater disposal to</u>	Kerb
<u>P and D Notes</u>	



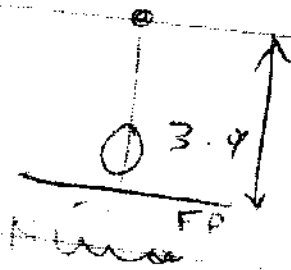




Reed
87 Hina St
28-5-87



10-2



CHECK LISTOwnerBuilderGENERAL

Documents

✓ Plumbing & Drainage

✓ Siting

✓ Heights & Daylighting

✓ Planning Approval

✓ Drainage to RCC approval

NA Solid Fuel Heater Install.

✓ Lighting & Ventilation

✓ Room sizes

✓ Site plan to show off road Parking.

✓ 2nd copy of site plan & bracing schedule

✓ opening windows not shown.

FOUNDATION & FLOOR

✓ Vents

✓ Foundation Plan

✓ Bearers

✓ Joists

✓ Insulation

✓ Footings

✓ Isolated piles & footings

✓ B4 ties on required

multiple bottom rods

✓ Vermin proofing

✓ Support for L/B walls

✓ Sub floor bracing *Continuous Foundation*

NA Vapour barrier & edge finish

NA Hard fill

✓ Min. depths; min. floor level

NA Block wall

NA Insulate floor over garage

✓ Deck Joists

NA Stair joist trim

✓ Lateral support for joists

NA Block lintels

NA Control joists

WALLS

NA High studs

✓ Bracing *no bracing to line "D"*

✓ Insulation

✓ Pre finished wall board &

bracing

✓ Lintels/Beams

✓ Building paper full face

of frame

✓ Stud height - generally 2400 clear

✓ Lintel strapping

✓ Trimmers

NA Beam support & uplift restraint *Not shown.*

NA Line & install. garage/house walls

Strap & line

NA Height of veneer.

ROOF & CEILING

✓ Bracing

✓ Insulation

NA Rafters

Purlins *Size & spacings not shown*

NA Ridge Beam

✓ Building paper & netting/building felt

NA Diaphragm ceiling

X Beam Uplift

✓ Ceiling lining support grid

NA Under purlins & strutting

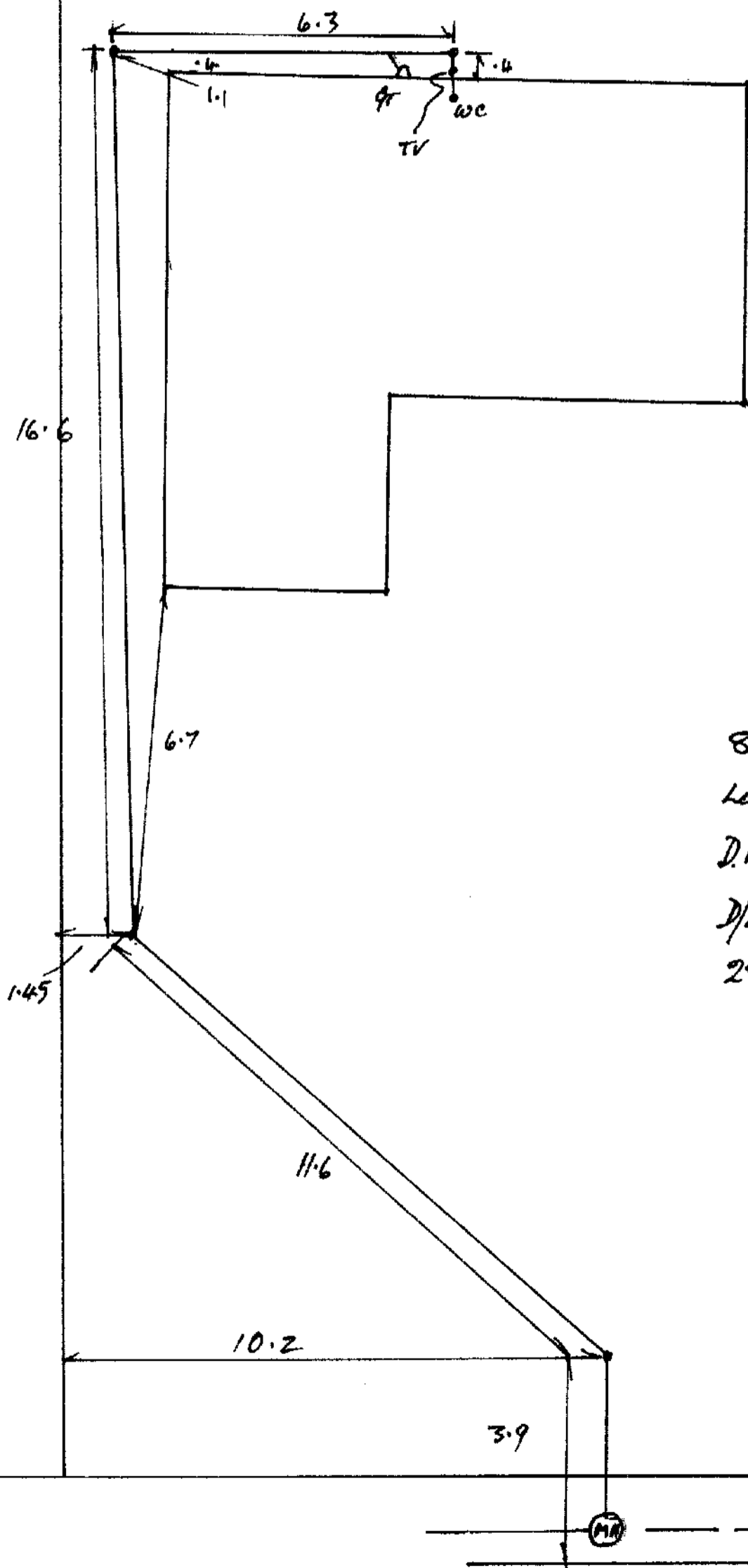
✓ Proprietary trusses

✓ Ceiling joists

NA Rafter seat & connections

NA Overhead glazing

Support & fixings of beam/post.



87 HUIA ST
LOT 7
D.P. 47674
D/L MARSH
28-5-87

(COPY TO INSPECTOR)

PERMIT **W** No 7193**HOROWHENUA COUNTY COUNCIL****WAIKANA E DISTRICT COMMUNITY****PERMIT FOR A PLUMBER OR DRAINLAYER TO CARRY OUT PLUMBING OR DRAINAGE WORK**Mr D. Marsh7 Naikara RdRaumati

(a licensed plumber or drainlayer), is hereby authorised to carry out the work described herein, and as set forth in the plan deposited with me, on the premises owned (or occupied) by

Mr D. Reed and situated in 87 Huia Street Street (orRoad), Waikanae being described as 1017 Op47674Description of work: Plumbing & Drainage to new Dwelling

Estimated Value of work excluding materials:

Estimated Cost \$ 1500.00Permit Fee \$ 176.00Receipt No. 9367

Connection Fee \$

TOTAL \$ 176.00

Such work is to be carried out in strict accordance with the Plumbing and Drainage Regulations 1978 and Horowhenua County Council By-Law No. 9, and shall be completed on or before the

day of _____ 19____

Date 13-4-87

County Engineer

This permit is issued subject to:

It is the responsibility of the owner and
or builder to ensure that proposed
building levels are compatible with
existing sewer connection levels.

HOROWHENUA COUNTY COUNCIL**WAIKANA E DISTRICT COMMUNITY****Notice of Completion of Work and Request for Inspection**To: The Health Inspector,
Horowhenua County Council
LEVIN.

I HEREBY GIVE NOTICE that I have completed at premises situated at _____

_____ Street/Road, owned by Mr _____ the plumbing/drainage

works specified in Permit No. _____, issued on _____ 19____, and I do
hereby request that such works should be inspected.

Dated this _____ day of _____ 19____

Plumber/Drainlayer

Address of Plumber: _____

FOR OFFICE USE ONLY

The works above referred to in Permit No. _____

I HEREBY CERTIFY that the work has been examined and found satisfactory.

Date: _____ 19____

Inspector

Horowhenua County Council

Inspector: M

File No.

Receipt No. 9367

Date Permit Issued 13/4/87

OWNER

Name D. Reed
Mailing Address 29 Hira Street
Waikanae

BUILDER

Name As owner
Mailing Address

PROPERTY ON WHICH BUILDING IS TO BE ERECTED/DEMOLISHED

SITE

Street No. 87
Street Name Hira Street
Town/District Waikanae
Riding Waikanae

LEGAL DESCRIPTION

Valuation Roll No. 14970-397-31
Lot 7 D.P. 47674
Section Block
Survey District

DESCRIPTION OF PROPOSED WORK AND MAIN PURPOSE OF USE

New Dwelling

FLOOR AREA

DWELLING UNITS

Whole
Sq. Metres

80

Number
ErectedESTIMATED
VALUES
\$Building
Plumbing
Drainage
TOTAL44270
3730
48000

NATURE OF PERMIT (TICK BOX)



NEW BUILDING

- exclude domestic garages and domestic outbuildings



FOUNDATIONS ONLY

ALTERED, REPAIRED, EXTENDED, CONVERTED, RESITED
- include installation of heating appliancesNEW CONSTRUCTION
OTHER THAN BUILDINGS - include demolitionsDOMESTIC GARAGES
AND DOMESTIC OUTBUILDINGS

FEES APPLICABLE

Building Permit \$ 300
Street Damage Deposit \$ 200
Building Research Levy \$ 400
Plumbing \$ 1760
Drainage \$
Sewer Connection \$Water Connection \$
Vehicle Crossing Levy \$
M.S. Plumbing \$
TOTAL: \$ 35400Receipt No. 9367
Date of Payment 13/4/87
Authorised Officer

Special Conditions:

P & D WARRIN

It is the responsibility of the owner and
or builder to ensure that proposed
building levels are compatible with
existing sewer connection levels.

19/12/88

VE now complete

Deposit refunded 20-1-89

Date Inspected

REMARKS (e.g. stage reached with work)

15/4/87

Foundation. Ground bearing etc OK.
steel being placed vents etc ok

21 April 1988.

Mr. D.B. Reed,
87 Huia Street,
WAIKANAE.

Dear Sir,

I refer to the written site instructions to you regarding the erection of a carport on your property at 87 Huia Street, Waikanae, without first obtaining a building permit. Our records indicate that despite the contents of the site instruction, you have not re-submitted your permit application or provided the additional information, consequently a building permit has still not been issued.

You are hereby required under clause 2.18.8 of Council's Building By laws to demolish and remove the building within twenty eight (28) days of the date of this notice. Your failure to comply with this notice will render you liable for a further offence under clause 2.18.8. of the Council's Building By Laws.

Yours faithfully,

RD

R. Dawson,
BUILDING INSPECTOR:

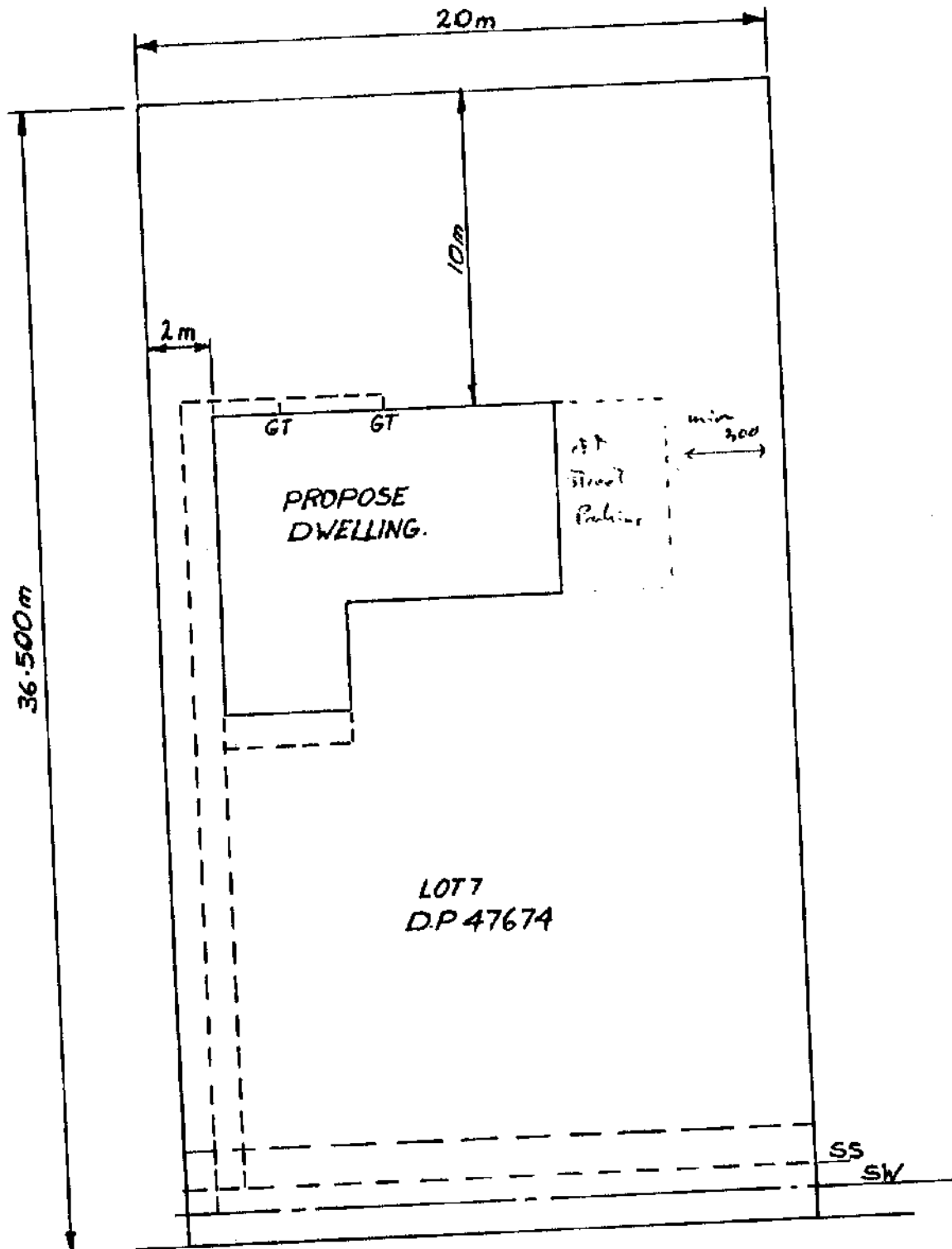
APPROVED

[Signature]

COUNTY ENGINEER

DATE _____

It is the responsibility of the owner and the builder to ensure that proposed building levels are compatible with existing sewer connection levels.



~~HURA ST~~
HURA ST

Horowhenua County Council

Fees not to be paid until requested by Office

SCALE OF FEES

For the examination of plans and specifications of any building and for the inspection of such building, the following fees shall be payable according to the estimated value of the work.

In any dispute as to value, the County Engineer shall have the absolute determination of the value of the proposed work or building.

ESTIMATED VALUE OF WORK		FEES
Not exceeding	\$1,000	\$12.00
Over \$1,000 and not exceeding	\$3,000	\$18.00
" " " " "	\$7,000	\$40.00
" " " " "	\$10,000	\$60.00
" " " " "	\$15,000	\$75.00
" " " " "	\$20,000	\$100.00
" " " " "	\$25,000	\$125.00
" " " " "	\$30,000	\$150.00
" " " " "	\$40,000	\$175.00
" " " " "	\$50,000	\$200.00
" " " " "	\$60,000	\$225.00
" " " " "	\$70,000	\$250.00
" " " " "	\$80,000	\$275.00
" " " " "	\$90,000	\$285.00
" " " " "	\$100,000	\$295.00
" " " " "	\$150,000	\$325.00
" " " " "	\$200,000	\$350.00

For every \$50,000 extra add \$50.00.

FEES PAYABLE FOR SPECIAL DUTIES

For inspection required in the case of proposed structural alterations before plans for approval	\$10.00
For inspecting every detached stove, furnace, oven, close fire or forge erected subsequently to the building	\$20.00
For inspecting old timber before re-using the same in a new building	\$10.00
For any inspection that may be deemed necessary in connection with any building or work in respect of which no fee has otherwise been paid	\$10.00
For inspecting any timber or building outside the County prior to re-using or resting within the County — actual expenses incurred.	
For structurally checking plans and specifications by Council's Engineers, an increase of 25% of the building permit fee based upon the total value of the work will be charged.	

PERMIT No. 11844
EC30490

LOCALITY Waikanae

DATE RECEIVED 26 : 3 : 87 DATE ISSUED 13 : 4 : 87

APPLICATION FOR BUILDING PERMIT

OWNER'S NAME D. J. Jones

FOR OFFICE USE ONLY

REMARKS:

It is the responsibility of the owner and/or builder to ensure that proposed building eaves are compatible with existing eave connection levels.

<p>APPROVED</p> <p><i>R. F. Lawson</i></p> <p>COUNTY ENGINEER</p> <p>DATE <u>10/4/87</u></p>
--

NOTE.—

1 All Plans and Specifications must be in ink.

SHEET A (CIRCLE whichever is applicable)

It is the responsibility of the owner and or builder to ensure that proposed building levels are compatible with existing sewer connection levels.

NAME:

ADDRESS:

STOREY: Single or Uppermost
Lower of two or middle of three
Lower of three

ROOF TYPE: Light Heavy

ROOF PITCH: 0° - 25° / 26° - 45°

WIND AREA: High Medium / Low $18 + (14 \times 1.5) W = 39$ B.U.'s/m

EARTHQUAKE ZONE: A / B / C E = 2 B.U.'s/m²

ROOF OR BUILDING LENGTH BL = 12.0 m

ROOF OR BUILDING WIDTH BW = 9.6 m

GROSS ROOF OR BUILDING PLAN AREA GPA = 97 m²

EARTHQUAKE: B.U.'s ALONG AND ACROSS E x GPA = 2 x 97 = 194 B.U.'s

WIND: B.U.'s ALONG W x BW = 39 x 9.6 = 374.4 B.U.'s

WIND: B.U.'s ACROSS W x BL = 39 x 12.0 = 468.0 B.U.'s

SKETCH PLAN (external and internal walls):

Type	Description of wall bracing element	Rating (bracing units per metre of element length)
1	Diagonal braces with sheet material (clause 6.9.2):	
	Let-in timber or steel angle brace, sheet on one face	42 in single or top storey 50 in any other location
2	Let-in timber or steel angle brace, sheet on both faces	62 in single or top storey 74 in any other location
	Sheet bracing (clause 6.9.4):	
8	Sheet bracing on one face:	
	Element length not exceeding 1.8 m	67 in any location
	Element length exceeding 1.8 m	83 in any location
10	Sheet bracing on one face, sheet material to clause 6.9.2.2 on the other:	83 in any location
11	Reinforced concrete or reinforced masonry (clause 6.9.5), rating for each side of the element to which framing is attached	42 in any location

Total B.U.'s Required

ALONG
374.4

ACROSS
468.0

SHEET B

2	3	4	5	6	7	8
Wall Line	Minimum B.U.'s Required	Label No.	Type	Rating B.U.'s/m	Length (m)	B.U.'s Provided
A		A1	T1	42	2.02	92.4
Sub-total						92.4
B		B1	T1	42	2.04	100.8
		B2	T8	67	0.9	60.3
Sub-total						161.1
C		C1	T2	62	2.04	148.8
Sub-total						148.8

D		D1	T8	67	0.9	60.3
		D2	T8	67	0.9	60.3
		D3	T8	67	0.9	60.3
Sub-total						180.9
Total						533.2

Sub-total						
M		M1	T2	62	2.04	148.8
Sub-total						148.8
N		N1	T2	62	2.02	136.4
Sub-total						136.4
O		O1	T2	62	3.06	148.8
Sub-total						148.8
P		P1	T1	42	2.04	100.8
Sub-total						100.8

TOTAL	TOTAL	534.8
-------	-------	-------

PRELIMINARY & GENERAL

1.01 SCOPE OF WORK

This Contract comprises the supply of all plant, materials, and labour necessary for the construction, completion and maintenance of the whole of the work specified herein and/or shown on the drawings.

1.02 CONTRACT DOCUMENTS

The following documents form this Contract:-

- (a) Builders Tender and Building Agreement
- (b) This Specification and Addendum Sheet
- (c) Working Drawings

1.03 SITE

The Contract is based upon the site conforming with :

- (a) Levels and/or Contours as shown on the drawings together with specific foundation details drawn or specified.

or

- (b) Level site.

The sub soil is of sufficient strength as to necessitate only the minimum foundations requirement of the Local Authority or Lending Institution, unless otherwise drawn or specified.

Where the sub soil is not of sufficient strength to meet the requirements of minimum foundations, all additional work, labour and material to provide adequate foundations or bearing capacity shall become a variation to the Contract (this includes previously cultivated ground and filled sites).

1.04 DRAWINGS AND SPECIFICATION

This specification is to be read in conjunction with the plans, working drawings and any other detailed drawing which may be issued. All figured dimensions shall be taken in preference to those scaled. All detailed drawings shall supercede those to smaller scale.

If any error or inconsistency should appear in or between the drawings and specifications, the drawings shall take precedence and such differences are to be referred to the Designer for interpretation.

1.05 BY-LAWS AND PERMITS

The whole of the works shall be carried out in accordance with and shall conform to the By-Laws and Regulations of the Local Authority and the requirements of the Owner's Mortgagee.

The Contractor shall obtain all permits and pay all inspection and other fees necessary for the carrying out of the Contract.

Note: Crossing Fees - Upgrading Rights of Way

The Contractor shall pay necessary deposits or fees for sealing, vehicle crossing, etc, as required by the Local Authority only to allow permits to be uplifted. All such amounts are the liability of the owner, and such amounts as required charged as extra.

1.06 INSURANCES

Prior to commencing construction of the Contract, the Contractor shall purchase the following insurance for the period of the Contract (excluding maintenance).

- (a) Worker's Compensation Insurance as stipulated by the Act.
- (b) Contractor's "All Risk Insurance" or "Fire Insurance" insuring against loss or damage by fire in the joint names of the Contractor and the Owner to the full insurable value.

It is the responsibility of the owner and
or builder to ensure that proposed
building levels are compatible with
existing sewer connection levels.

S P E C I F I C A T I O N

APPROVED

COUNTY ENGINEER

FOR

DATE

12-3-88 DB REGO

24 Haver St Lot 7

Waltham

I N D E X

Pages	1 - 2	PRELIMINARY AND GENERAL
	3 - 4	EXCAVATION
	5 - 7	CONCRETE WORK
	8 - 10	BRICKLAYER
	11 - 22	CARPENTER
	23 - 25	JOINERY
	26 - 28	ROOF COVERINGS
	29	SOLID PLASTERER
	30 - 31	DRAINLAYER
	32 - 35	PLUMBER AND SHEET METAL WORKER
	36 - 38	ELECTRICIAN
	39 - 40	PAINTER AND GLAZIER
	41 - 42	APPENDIX A - LINTELS
	43 - 47	APPENDIX B - NAILING SCHEDULE

1.07 MAINTENANCE

Where required by the Agreement between the Owner and the Contractor, the Contractor shall undertake to remedy defects in material and workmanship which appear in the dwelling within 31 days after completion.

The Owner will notify the Contractor in writing of any items which require rectifying within 31 days.

1.08 VARIATIONS

No variations shall be considered unless the Contractor prepares a separate estimate for such work.

The Contractor shall not be obliged to undertake any variation until the Owner has given approval by signing and returning the variation to the Contractor.

1.09 MONETARY ALLOWANCES

A prime cost (P.C.) sum shall be varied by the substitution for the prime cost sum of the actual price paid by the Contractor for the particular work or materials supplied and the contract price shall be increased or decreased (as the case may be) by the amount by which such sum is varied. There shall be added to or deducted as the case may be, a sum representing such percentage as is normally charged by the Contractor, but in no case shall such percentage exceed ten per centum of such variation.

The P.C. sums referable to this Contract are specified in the attached addendum sheet.

1.10 TEMPORARY SERVICES

The Contractor shall provide and maintain all temporary services necessary for the work, and give notices and pay all dues in connection therewith.

1.11 SETTING OUT

The Contractor/or his employees shall be responsible for setting out the works as shown on the drawings and to maintain set out level pegs and control pegs during the currency of the Contract. Site boundary pegs are the Owner's responsibility.

1.12 COMPLETION

The Contractor/or his employees shall remove all rubbish and equipment accumulated during the construction of the house, remove all temporary work and leave all services in good order, rake out all rubbish from under floor, leave floors broom clean and windows whole and clear.

1.13 MATERIALS SUBSTITUTION

Where the use of Brand names are used in this specification, substitution may be made, provided the substitute materials are of equal or better quality than the item being replaced.

EXCAVATIONS2.01 PRELIMINARY

The whole of the works shall be carried out in accordance with and shall conform to the By-Laws and Regulations of the Local Authority.

2.02 SET OUT

Set out the whole of the excavations to the layout and overall dimensions as required.

2.03 CLEARING SITE

Clear off all vegetation over the area of the proposed building.

2.04 UNSTABLE GROUND

Where loose, soft or otherwise unstable ground is encountered, the excavation depth is to be increased until solid bearing is reached. An extra to the Contract will be made for such work.

2.05 FOUNDATION EXCAVATIONS

Excavation in accordance with the floor detail as shown on plan.

a) Timber Floor

i) Foundation Excavation

Excavate for all foundations to a solid bearing at a minimum depth of 300mm below adjacent ground level.

All excavations are to be level and shall be stepped for sloping ground with minimum depth of 300mm below ground level.

ii) Backfilling

Backfill against all foundations are required with clean excavated material well compacted.

iii) Pile Excavation

Excavate for all piles shown on plan to a solid bearing at a minimum depth of 300mm below adjacent ground level.

b) Excavation Concrete Floor

i) Excavations

Remove vegetation and top soil over the whole of the building area as shown on the drawings, to a minimum depth as required by the Local Body for lending authority. Excavate for all foundations shown on plan to a solid bearing at a minimum depth of 300mm below adjacent ground level.

All excavations are to be level and shall be stepped for sloping ground with minimum depth of 300mm below ground level.

ii) Backfilling

Backfill against exterior of foundations as required with clean excavated material well compacted.

iii) Filling Under Slab

Filling under all concrete floor slabs to the underside of the floor slab with hard material lacking fines. This layer shall be well consolidated and its surface shall be blinded with clean fines well rolled and consolidated.

2.06 INSPECTION

All excavations are to be inspected by the Local Authority and lending institution prior to placing any concrete or filling.

2.07 SEPTIC TANK

Where shown, indicated or otherwise required, excavate for a septic tank of the size required by the Local authorities. Excavate for effluent trenches and or soak pit as required.

CONCRETE WORK3.01 PRELIMINARY AND GENERAL

Note all clauses under preliminary and general of this specification which shall apply to this section of the work.

3.02 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 on the drawings.

3.03 MATERIALS

Concrete shall be ordinary grade concrete with a minimum specified crushing strength of 17.5 MPa after 28 days curing, unless stronger grade concrete is required by notes on the drawing.

Site mixed concrete shall consist of 4 parts coarse aggregate, 2 parts fine aggregate and 1 part of fresh Portland Cement. Maximum aggregate size shall be 20 mm.

Alternatively, properly graded and mixed, clean, sharp "all in" aggregates may be used, mixed in the ratio of $4\frac{1}{2}$ parts aggregate to 1 part fresh Portland Cement. Care must be taken to ensure that measures of aggregates and cement are the same volume. Ingredients shall be mixed in a power driven mixer for $1\frac{1}{2}$ minutes after all ingredients have been added.

Concrete shall contain 8 bags of cement to each cubic metre of placed concrete.

Water for concrete shall be fresh, potable quality, added only in sufficient quantity to make a stiff but workable mix.

Cement shall be fresh Portland Cement. It shall be carefully handled and stored away from moisture until used.

3.04 REINFORCING

Reinforce foundation walls, footings and beams as shown on the drawings. All main reinforcing bars shall be deformed bars. Tie bars between main bars may be plain round bars.

Reinforcing shall be neatly and accurately bent and placed as shown on the drawings. Tie all laps and crossings with 16 gauge black iron wire. Reinforcing shall be continuous around all corners and through steps in footings and walls. Generally, reinforcing in foundation walls shall be placed in the centre of walls, unless otherwise noted on the drawings.

Provide 75mm cover from natural ground under footings and 50mm cover from the sides of footings. Place concrete or plastic spacers to hold rods in position and to maintain cover.

Laps in deformed bars shall be a minimum of 40 x diameter, and shall be staggered at random.

Openings in foundation walls shall be trimmed with a minimum of ID12 bar extending not less than 600mm beyond the edges of the opening.

3.05 FORMWORK

Formwork generally shall be of 12mm minimum thickness plywood shutters or 25mm non-staining boarding. Formwork shall be so constructed that it can be easily removed without damaging the concrete.

Formwork shall be constructed true to line and level and shall be effectively propped, tied and strutted to prevent deformation or movement under the load of the wet concrete.

Form all openings in formwork for vents, conduits or ducts required.

3.06 FOUNDATIONS

Foundation footings, walls and reinforcing shall be as shown on the drawings. All footings shall be laid on a clean, level bed. See also section - Excavation.

While concrete is still green, place all bolts for holding down wall plates, bearers, braces, etc. Bolts for holding down wall plates shall be not less than 10mm dia., set not less than 75mm into the concrete, cranked for anchorage. They shall be set not more than 300mm for a corner or end of a wall and shall be spaced at not more than 1.4m centres. Each length of plate shall be held down with not less than 3 bolts.

Bearers shall be fixed to foundation walls or nib piers with 12mm dia., bolts set not less than 150mm into concrete.

3.07 PILES

Foundation piles shall be precast or cast-in-situ concrete parallel sided, tapered or circular. Piles shall be not less than 200mm across the base and not less than 150mm across the top.

Piles shall be set into concrete pads of widths and depths noted on the drawings. Concrete piles shall be carried up to heights to suit sub floor framing and the maximum heights noted below -

Cantilevered piles	600mm
Anchor piles	150mm
Ordinary piles supporting jackstuds	600mm
All other piles	1.5m

Unless otherwise noted on the drawings, piles shall be ordinary piles.

Piles shall be not less than 150mm above ground, and shall be set into concrete pads with not less than 75mm of concrete between the base of the pile and the ground.

Timber piles shall be of natural round timber treated to T.P.A.C2 specification and shall have a minimum diameter of 140mm.

Timber piles shall extend a minimum of 300mm above finished ground level and any cut ends shall be brush treated with preservative.

Timber piles may extend to the following heights above ground -

Cantilevered piles	600mm
Braced piles and ordinary piles directly supporting bearers	3.0m

All anchor piles must be concrete or masonry.

Timber piles shall be set into concrete footings as noted on the drawings.

3.08 CONCRETE SLABS

Where shown on the drawings, cast concrete slabs to porches and floors. Slabs shall be a minimum of 100mm thick and shall be reinforced with H.R.C. 665 mesh placed 40mm from the top of slab. Lap mesh 230mm at edges.

Before casting slabs (except porch slabs), blind hardfill with sand to a depth of 25mm. Lay vapour barrier of 0.10mm polythene or Moistop 737 underlay.

Joints shall be lapped 150mm and sealed with polythene tape. Vapour barrier shall be continuous across beams and footings as shown. Where pipes penetrate the vapour barrier they shall be wrapped with tape to provide a seal.

Care shall be taken whilst pouring concrete to ensure that the vapour barrier is not damaged. Tears shall be repaired before concrete is poured.

Slabs shall be screeded level with falls where shown on the drawings.

After the initial set has occurred, finish surface of slab with a steel float, taking care not to pull the aggregates or form ridges.

Care should be taken not to excessively work the surface, drawing excess laitance. Should this occur, the surface shall be treated with a hardening substance to prevent dusting.

Slabs shall be finished level with a tolerance of $\pm 4\text{mm}$ in the length of a 3.0m straight edge.

Concrete shall be kept from premature drying out by keeping damp for a period of 5 days after pouring.

3.09 PLACING OF CONCRETE

Concrete shall be mixed as close to the work as possible and shall be placed from the mixer directly into the formwork. Concrete in formwork shall be compacted by means of immersion vibrators, handled by competent operators or by other suitable tools. Care shall be taken not to excessively work the concrete.

3.10 PORCH AND TERRACE FLOORS

Concrete slabs to be minimum 100mm thick supported on consolidated hardcore filling and laid with an even fall to exterior edges.

Supporting walls to be minimum 100mm thick concrete.

Steps to have treads and risers of size shown on drawings and to have minimum 100mm throat.

All reinforced as detailed on drawings. All concrete surfaces which are to be plastered are to be cross combed to form key for plaster.

BRICKLAYER**4.01 PRELIMINARY AND GENERAL**

Read and note all clauses under Preliminary and General of this specification where they apply to this trade. (These clauses shall also apply to veneer work of concrete block, split stone or similar materials.)

4.02 RELEVANT SPECIFICATIONS

All work shall be in accordance with the requirements of NZSS 1900 CH 6.2 and NZSS 1900 CH 6.1.

4.03 MATERIALS

- (a) Bricks: Bricks for external veneers and foundation walls shall be of the colour and type selected and shall comply with NZSS 366 Clay Building Bricks Grade A or B. All fair face brickwork shall be laid with their best face outwards.
- (b) Cement: Cement shall be ordinary Portland Cement and at the time of use shall comply with NZSS 1844 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 and shall at the time of use be free from acids, alkalis and organic impurities.
- (e) Sand for Mortar: Sand used shall be clean, sharp and shall comply with the relevant clauses of NZSS 2129, 1967, Sands for Mortars, Plasters and External Renderings.

4.04 PREPARATION OF MORTAR

Mortar shall be prepared by mixing in an approved batch mixer. Measurement of materials shall be by volume in a suitably calibrated device. Mortar shall be mixed until a homogenous mass is obtained but for not less than 5 minutes. All mortar, whether on the boards or left in the mixer, shall be used within 90 minutes. Mortar not used in this time shall be discarded.

4.05 BRICKLAYING

Brick shall be laid in stretcher bond, true to line, level and plumb, and in accordance with best trade practice. All work shall be laid from the lowest corner and no corner shall be raised more than 1.000mm 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 shoved into place at least 10mm and shall be disturbed as little as possible after initial positioning. Head joints shall be buttered on three edges, deeply furrowed joints will not be permitted and mortar shall be spread on the bed joint not more than three bricks ahead of laying the next course. Joints shall unless otherwise specified, be not more than 10mm 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.

4.06 BRICK VENEER

Construct brick veneer as shown on the drawings and in accordance with NZS 3604. Mortar and Workmanship shall be as previously specified. Veneer ties, and their anchorages, shall be designed and fixed so as to resist a lateral load in tension or compression of twice the weight of veneer which each tie supports, without elongation or shortening of the assembly by more than 1.2mm.

Ties shall be non-corrodible metal or shall be galvanised after forming, with a zinc coating. If of round bar they shall be of a minimum of 4.75mm; if of sheet metal they shall be of a minimum thickness of 1.3mm and a minimum width of 25mm. Sheet metal ties are preferred.

Approved ties shall be spaced at not more than 600mm horizontally and not more than 350mm vertically or 450 horizontally and 400 vertically. An air space of at least 40mm shall be maintained between timber frame and exterior veneer and weep holes shall be left every third joint for the discharge of water. Leave 5mm gap along the top of the veneer below the soffit to provide ventilation to cavities. Care shall be taken to maintain the air-space and upstand free of any mortar droppings, protruding joints, or pipes or electrical wire, junction boxes, etc. Incorporate galvanised 4 mesh 1.0mm vermin proofing. Where shown build in bricksize concrete vents as required. All facing work shall be kept clean as the work proceeds. On completion, all brick work shall be left in a clean state. Clean down with a weak acid solution to remove mortar stains.

4.07 SILLS

Sills to be brick on edge, quarry tiles, or concrete slabs brought to the underside of wooden sills, junction between to be filled with 'Hydroseal' and over-pointed with cement mortar.

4.08 BUILDING PAPER

Cover the whole of the external face of framing with breather type building paper, lapped 150mm at joints and fastened to framing with large headed galvanised clouts - (to be carried out by Carpenter). Veneer ties shall be fixed over the building paper. Fixing nails only shall penetrate through the paper.

4.09 VERMIN PROOFING

Build-in 100mm wide strips of approved galvanised wire mesh secured to bottom of wall plates with 19mm by 2.0mm galvanised wire staples carried across cavity and taken 25mm into work. Vermin proof dividing wall and wherever necessary to prevent entrance of vermin.

4.10 CHIMNEY BASE AND HEARTH

Construct pad and base walls for chimney, poured integrally with foundation walls. Walls shall be 125mm minimum thickness, reinforced with ID12 bar around top and D10 bars at not more than 200 centres both ways. Vertical reinforcing shall extend into the hearth slab, and shall be not more than 40mm from the top of the slab.

Place ID12 bar around the perimeter of the slab.

The hearth shall have a minimum thickness of 100mm and shall extend 500mm from the face of the fireplace.

Provide opening in hearth for tilt plate and opening in exterior wall for ashpit door where shown on the drawings.

4.11 PRECAST CONCRETE CHIMNEY

The Chimney shall be of standard construction. Type as shown on drawings. All mortar to joints composed as for brick chimney. Reinforce shaft from gathering to top of flue with four D16 rods, well grouted in. Laps where required are to be 40 diameters. (Laps are to be avoided where possible). Top of chimney shaft is to finish at least 225mm above ridge level.

4.12 FIRE BOX

Construct fire box in H30 fire bricks, laid on the flat and bonded together with 'Firecem'. The sides of the fire box shall be angled inwards to the rear. The back of the fire box shall be angled forwards towards the top and shall turn upwards below the level of the fire surround. The back shall be angled and turned to provide a throat of 100mm maximum. Form smoke shelf and parge to provide smooth air flow. Provide hobs for cast iron or steel plate grate.

4.13 SURROUND

Allow the provisional sum as shown in the addenda, for the supply and installation of a selected fire surround and hearth surfacing, unless details for special surround and hearth are shown on the drawings.

CARPENTER5.01 PRELIMINARY

The whole of the works shall be carried out in accordance with and shall conform to the By-Laws and Regulations of the Local Authority and Mortgage Institution.

The Contractor shall obtain all permits and pay all inspection and prepay other fees necessary for the carrying out of this Contract.

5.02 EXTENT OF WORK

Comprises the supply and fixing of all timber work, lining, sheathings, fittings, finishings and hardware as shown to the best trade practice.

Cut away for, attend on and make good after all other trades.

Provide and fix all necessary beads, stops, fillets, etc as may be required. Leave all working parts in good working order.

5.03 MATERIALS

All materials shall be new unless otherwise specified and the best of their respective kinds.

All timbers shall be as specified and graded according to N.Z.S.S. 169 and shall be in straight and in as long lengths as procurable.

All treated timbers shall be in accordance with the Timber Preservation Authorities Regulations.

Framing timbers to which linings are to be fixed should be gauged to eliminate variation in size.

Exposed exterior and interior finishing timbers unless detailed otherwise, are to be machine dressed to a constant thickness and width.

5.04 WORKMANSHIP

Workmanship of the best shall be employed in thoroughly securing and framing together spiking or bolting down as may be required.

All nails in exposed work are to be punched below the surface.

5.05 PAINT PRIMING

All exposed exterior woodwork including laps, rebates, mitred joints, etc, where paint finished shall be primed and where stain finished shall have one coat of stain as required.

5.06 DAMP PROOF COURSE

Lay an approved 3 ply bitumen fabric D.P.C. or other approved material under all timber which is in direct contact with concrete or masonry construction.

5.07 TIMBER GRADES

The Contractor shall allow for all timbers as specified below.

Machine dressed timbers shall be thoroughly kiln dried or air seasoned to a moisture content of 12 - 18%.

Sub Floor Framing	- B.A. Ht. Rimu or Tan Pine
General Framing Timbers	- Boric Treated No.1 framing grade Pinus Radiata or B.A. Rimu
Exposed beams, rafters, joists, trusses	- Clean Douglas Fir or Oregon

- | | |
|----------------------------|--|
| Exterior Finishing Timbers | - Heart or tanalised treated Rimu, Matai, or white Pine or as detailed on plans. |
| Interior Finishing Timbers | - Heart B.A. Rimu or finger-jointed Pinus where painted. |

5.08 BUILDING PAPER

Provide breather-type building paper complying with NZS 2295 and secure to the exterior face of stud framing or sheet bracing material.

Run building paper horizontally with upper sheets lapping over lower not less than 75mm. Adequately secure to plates bearers and studs, extending from upper side of top plate to the underside of the bearers or wall plates supporting the ground floor joists.

Replace or adequately repair if punctured or torn, immediately before fixing exterior coverings.

5.09 SUB FLOOR FRAMING

Lay bearers across piles and foundation walls in the sizes indicated on the drawings.

Fix bearers and jack studs to ordinary piles with 4mm dia galv. wire passing through the pile, wrapped over bearers, or 200mm up jack studs and securely fixed to the timber with not less than 3 galv. staples per fixing.

Fix bearers or plates across cantilevered piles with 12mm dia. bolts or rods set into piles. Provide nuts and washers to bolts, to secure timbers or by clenching down rods. Bearers to be joined over supports with 45 minimum landing otherwise bearers shall have minimum landing of 90mm.

Fix braces to anchor piles with m12 bolts.

Bearers shall be laid in straight lines and packed level off piles. Where possible packing shall be avoided, but where required provide full support to bearers. Malthoid packing must not exceed 3 layers. Where greater depth packing is required, it shall consist of accurately gauged timber set under the bearer, and shall be securely fixed to prevent displacement.

5.10 FLOOR JOISTS

Floor joists shall be of the sizes noted and at centres indicated on the drawings.

Gauge joists level and in straight lines. Provide minimum landing of 32mm on their supports. Make all joints over supports except for cantilevered joists. Joists may be butted over supports except joists to which diagonal bracing is attached. These joists and every 3rd joist, shall be lapped 300mm over the centre of a support or shall have a 300mm timber flitch plate centred on the joint and connected to each joist with 4/100mm nails to each joist, (alternatively 2 connectors each having a capacity of 3kN.).

Provide double joists under all bearing walls. Double joists may be separated by 50mm packings at not more than 600mm centres. Non load bearing walls shall be over joists or may be supported by 100 x 50 blocking between parallel joists, at each end of the wall, at each side of door openings and at not more than 1.2m centres.

Fix 25mm thick boundary joists as trimmers to the ends of all joists as indicated on drawings, or fix other support as detailed on the drawings or permitted by NZS 3604.

Provide full depth blocking or herring bone strutting at the mid span of all joists exceeding 2.4m span as indicated on the drawings. All joists shall be fixed to supporting bearers, beams or plates as required by the nailing schedule, with additional fixings as shown on the drawings.

Provide dwwanging between joists at the line of all joints in flooring and for ceiling linings where the joists are for an upper floor.

5.11 WALL FRAMING

Frame up for walls and partitions as shown on drawings. Studs shall be cut square at ends or true to angles of gable or sloped frames. All studs shall be continuous for full length from top to bottom plates including plates at roof level on gable frames. Fix ribbon plate to studs for fixing ceiling joists at gable and frames.

Framing shall generally be out of 100 x 50 or 75 x 50 No.1 Framing grade treated Radiata pine.

Top and bottom plates shall be sizes complying with Tables 18 and 19 of NZS 3604 and as shown on the drawings. Studs shall be of sizes and at centres shown on the drawings and as required by Tables 12, 14 and 15 of NZS 3604.

Provide 2 rows of dwangs in the height of each wall to provide stiffness to framing and support for linings.

5.12 LINTOLS

Lintols shall be of sizes shown on the drawings and complying with Table 16 of NZS 3604, Appendix A.

Lintols shall be supported at ends by checking trimmer studs not less than 15mm nor more than 20mm for 100mm deep lintols. Lintols not exceeding 200mm deep, shall be supported by a 50mm thick doubling studs. Lintols not exceeding 300mm deep, shall be supported by a 75mm thick doubling studs. Lintols shall be fixed to trimmer studs and trimmer studs to floor joists at the bottom with 25mm wide galv. straps or other similar fixings as required by NZS 3604.

Refer also to the drawings and/or Fig 41, NZS 3604.

All nailing of treated framing shall be as shown on the nailing schedule.

5.13 BRACING

All bracing elements shall be located strictly in the positions shown on the drawings.

Metal bracing shall be 22 x 22 x 1.2mm galvanised steel angles or pairs of 22 x 22 x 1.2mm galvanised steel strip braces, fixed to top and bottom plates and studs, as shown on the nailing schedule.

Where angle braces are used, they shall be set in straight lines and saw cuts in framing shall only be of sufficient width and depth to neatly accommodate the bracing. Excess depths of cuts will not be permitted and studs cut to excess depths will be removed and replaced.

Bracings shown on the drawings are those required to comply with NZS 3604. The Contractor may provide additional bracing to hold frames square and true during erection.

The plan lengths of the bracing shall be not less than shown on the drawings.

Linings fixed over bracing and forming part of the bracing element, shall be fixed to framing ALL ROUND with fixings at centres as set out in the nailing schedule.

Generally, Types 1 and 3 bracing units require the lining to be fully fixed on one face of the framing only whilst Types 2 and 4 require complete fixing of the lining on both faces of the framing over the area of wall covered by the brace.

Sheet bracing shall be of the materials and shall be fixed in the locations shown on the drawings. In addition to the nail fixing required in the nailing schedules, sheet bracing elements shall be connected to bottom plates and joists or trimmer joists as shown in Fig. 47 of NZS 3604.

Bottom plates shall be held down to slab floors with 12mm dia. bolts or proprietary fixings not more than 150mm from the ends of the bracing element and at not more than 900mm centres between with nail plates or similar fixings between bottom plates and end studs, all as shown on Fig. 67 of NZS 3604.

Internal walls acting as bracing elements, shall be connected to exterior walls at top plate level, either directly or by a framing member in the line of the wall, at right angles to the exterior wall. Connections shall be made using nail plates or 25 x 1mm steel straps with 6/30 x 2.5 f.h. nails into each member.

Top plates in walls containing bracing elements, shall be butted together and jointed with metal connections as above. See addenda and drawings for nail plate sizes and number of steel plates required at each connection. See also Clause 6.7 K and figure 43 in NZS 3604.

5.14 POSTS AND BEAMS

Where shown on the drawings, erect posts and beams out of sawn timber, treated to TPA C7 Specification. Posts shall be anchored to concrete base pads with 50 x 6mm galvanised steel, fishtailed straps, 450mm long set 225mm minimum into concrete, each side of posts. Fix posts to plates with 2/12mm dia. galvanised bolts. Connect posts to beams with 50 x 6 x 400 long galvanised steel plates each side and 2/12mm diameter galvanised bolts through plates into each member, or as otherwise detailed on the drawings.

5.15 ROOF AND CEILING FRAMING

Frame up for roof as shown on the drawings. Where roof trusses are used, they shall be constructed in a properly equipped factory using nail plates at all joints.

5.16 TRUSSES

Trusses shall be constructed to the standard designs of the manufacturer noted on the drawings or to equivalent design of other approved manufacturers.

All trusses shall be certified by the fabricator as being constructed to the standards required by the designers (Pryde or Gang Nail) as required by NZS 3604; 10.2.3.

Where alterations to standard designs are required to fit the construction, the design amendment is to be carried out by the original truss designer and the fee for this work is to be allowed for in the tender.

Trusses shall be carefully handled and stacked on the site to prevent damage. Damaged trusses shall be removed from the site or repaired to the satisfaction of the designer or fabricator.

Trusses shall be fixed to top plates with 2 skewed 100 x 3.75 nails plus additional fixing to top plate and wall studs consisting of 4mm dia. wire dogs or 4mm dia. galv. wire ties wrapped over top chord and stapled to studs or other plate connectors. Multigrip anchors, galv. steel straps or similar.

Connect jack trusses to common trusses with connectors and blocking as detailed by the manufacturers.

Provide 75 x 50 blocking between bottom chord, or ceiling battens, as shown on the drawings.

5.17. FRAMED ROOFS

Frame up for roof as shown on the drawings. Rafters shall be birdsmouthed over top plates to not more than $\frac{1}{4}$ of their depth. Fix to 25mm ridge board. The ridge board shall be the full depth of the rafter. Fix rafters to ridge as shown in the nailing schedule.

Rafters shall be fixed to top plates with 2/100 x 3.75mm skew nails, plus additional fixings securing rafters to studs and top plate as shown on the drawings. These shall consist of 4mm dia. galv. steel dogs, or 4mm dia. galvanised wire wrapped over rafter and stapled to studs, or proprietary steel plate connectors, - Multigrip anchors or similar, used according to the manufacturer's recommendations. Fix 25 x 150 timber cleats to each pair of rafters directly under the ridge with 4/75 x 3.15 nails to each rafter.

Fix under purlins, collar ties, purlin struts, chocks and strutting beams and ceiling joists as shown on the drawings.

Nailing at all joints shall be as shown on the nailing schedule.

The feet of each pair of rafters shall be connected by a ceiling joist at the top plate level, unless shown otherwise on the drawings. Ceiling joists shall have a minimum bearing on their supports of 32mm. At joints, Ceiling joists shall be lapped 150mm over supports and spiked together or shall be butted and flitched with 300mm long member to match joists. Nailing shall be as required in the Nailing Schedule.

Fix ceiling runner across ceiling joists as shown on the drawings. Runners shall be supported off packing on to top plates of walls, and shall be held vertical at ends. Hang ceiling joists from runners with 50 x 50 timber hangers on alternate sides of runner or with proprietary metal hangers.

Ceiling joist and runner sizes shall be of size shown on the drawings and complying with Tables 23 and 24 of NZS 3604.

Under purlins shall be fixed in the position and of the sizes shown on the drawings and according to Table 25 of NZS 3604.

Under purlin struts shall be located at centres and of sizes shown on the drawings, and in accordance with NZS 3604; 10,3,8.

Fix strutting beams where shown on the drawings. Beams shall be kept 25mm clear of the top of ceiling joists with packings at the supports. Strutting beams shall be of the sizes shown on the drawings and as required by Table 26 of NZS 3604.

5.18. PURLINS AND TILING BATTENS

Securely fix purlins and/or tiling battens as shown on the drawings. Purlins shall be set out equally along the length of the rafter at centres not greater than shown on the drawings. Fix purlins to rafters with nailing as required in the Nailing Schedule, plus any additional fixings as required on the drawings.

Tiling battens shall be of the sizes shown on the drawings, and at centres to suit tile materials. Tiling battens shall be supplied and fixed by the Roofing Sub-contractor. The General Contractor shall provide temporary members required to hold roof framing in position until tiling battens are fixed.

5.19. ROOF BRACING

Provide and fix roof bracing as shown on the drawings and required by NZS 3604. Roof plane bracing shall consist of pairs of 25 x 1.2mm steel strap bracing fixed to each truss or rafter at crossing point and to the top plate of external walls. Bracing may be fixed to either the top or underside of rafters.

Where shown on the drawings, fix roof space bracing.

Braces shall consist of a single member, or pairs of 100 x 50 members, spaced 50mm apart and nailed together through blocking pieces not more than 1,000 apart. Braces shall be fixed to blocking between rafters or ridge at the top and a 100 x 50 brace runner at the bottom, connected to ceiling framing.

Bracing and blocking shall be fixed as set out in the Nailing Schedule.

Where shown on the drawings, hip and jack trusses or jack rafters on heavy hip roofs, shall be braced from the top plate to an internal wall bracing element above the level of the ceiling joists. Brace with 100 x 50 timbers on the flat, fixed to end wall framing, each truss chord or ceiling joist it crosses and to the wall bracing element, as shown in figures 55 and 56 of NZS 3604.

5.20 DWANGS AND BATTENS

Provide dwangs around the perimeter of all ceiling areas and between ceiling joists or trusses at 900mm centres. Dwangs shall be 75 x 50 fixed on edge. Where battens for ceiling linings are shown on the drawings, they shall be of the sizes and at the centres shown on the drawings.

Trim for ceiling access manhole where shown on the drawings. The access hole shall be not less than 500mm x 600mm and shall be trimmed with framing of the same size as the ceiling joists.

5.21 PLATFORMS IN ROOF SPACE (Water Tank Stand)

Frame up for tank stand over bearing wall or as shown and detailed elsewhere on the drawings. The tank stand shall consist of 50mm thick timber laid on flat and fixed to ceiling joists. Provide 100 x 50 cleats on flat around the tank overflow tray to prevent sliding.

5.22 EAVES

Frame up for eaves as shown on drawings with 75 x 50 ribbon plate fixed to wall framings and 50mm trimmer fixed to ends of rafters.

Fix 75 x 50 soffit bearers at 600mm centres. Where soffit bearers lie along side rafters, they shall be spiked together.

5.23 WARDROBES AND CUPBOARDS

Frame up for wardrobes and other cupboards where shown on the drawings.

Where shown on the drawings or noted in the addenda, trim for cupboards over wardrobes and linen and broom cupboards, etc. Over cupboards shall generally be the same width as the cupboards below

Provide a shelf in each wardrobe, 300mm wide out of ex 25mm timber, particle board or coreboard. Shelves over 1.5m long, shall be supported by an ex 75 x 25 rail fixed to the wall behind below the shelf, and a c.p. hanger to the framing above. The shelf shall be fixed 1.6mm from floor or at other height as directed or detailed. Fix 20mm c.p. hanging rail below shelf, 1.525mm from floor, with c.p. brackets at each end. Rails over 1.5m long, shall have bracket at mid-span fixed to shelf above. Fix additional shelves as detailed or noted on drawings.

Provide shelf and rail in coat cupboards as for wardrobes.

Linen cupboards shall have slatted shelves out of 50 x 25 timber fixed with 12mm gaps between slats. Fix slats to 25 x 50 battens. Shelves shall be loose laid, resting on battens fixed to side walls. Provide 5 tiers of shelves to each linen cupboard.

Pantry cupboards shall be fitted with shelves out of 25mm timber. Bottom shelf shall be 100mm above floor, and 450mm deep. Provide 2 additional shelves 450mm deep and 400mm apart. Upper shelves shall be 250mm deep and 260mm apart, starting 400mm above lower shelves. Provide 4 rows of upper shelves. Shelves shall be returned at sides of pantry as shown on the drawings, supported at corners.

5.24 HOT WATER CYLINDER CUPBOARD

Frame up for hot water cylinder cupboard where shown with stand for cylinder framed up out of 100 x 50 timber with ex 25mm timber decking. The stand shall be framed up at a level to suit the cylinder model and installation.

Cylinders connected to wetback heaters shall be at a level to suit heights of boiler connections, and shall be as high as possible. Cistern models shall also be as high as possible.

Check with Plumber for details of type of cylinder and height required for cylinder stand.

If cylinder is fixed at floor level, provide slatted shelves above cylinder top. Provide slatted shelves at side of cylinder if shown on drawings. Shelves shall generally be 250mm apart.

5.25 EXTERIOR CLADDINGS

Exterior claddings shall be as shown on the drawings and set out on the addenda. All materials shall be fixed according to the manufacturer's recommendations and details and according to the best accepted trade practices. All linings shall be fixed over breather type building paper. All fixing nails shall be galvanised or other non-corrodible metal as noted on the addenda. Unless otherwise noted, all nails in timber cladding, shall be punched below the surface.

Weatherboards shall be out of 25mm timber, bevelled back, rusticated, or skew cut as noted on the drawings. Generally, bevelled back and rusticated weatherboards shall be out of 200 or 250 mm wide timbers. All laps, butt joints and mitres, shall be primed before fixing. Weatherboards shall be fixed to framing with 1/60 x 2.8mm nails just above the lap, to each stud, except just below the rebate groove.

Horizontal laps shall be not less than 23mm for weatherboards with a rebate of not less than 25mm and 32mm for non rebated weatherboards. All weatherboards shall have an anti-capillary groove at the lap.

All end joints shall be mitred and made over studs, with bored holes for nailing at end joints and corners. Mitre external corners or fit with cover boards and scribes or rebate plugs, as shown on the drawing and noted in the addenda.

Internal angles shall be neatly scribed. Unless of Redwood or Cedar, all weatherboards shall be treated.

Pinex Weathersides and Hardieplanks cladding, shall be fixed as recommended by the manufacturers, with soakers at joints, internal and external angles. Sheet cladding (Hardieflex) shall be of thickness shown on the drawings. Where cladding forms part of a bracing element, it shall be fixed as previously described and as required by NZS 3604; 6.9.4., and as shown in the Nailing Schedule. Cladding shall be fixed according to the manufacturer's recommendations and as required by the Nailing Schedule. Unless noted otherwise, vertical joints between linings shall be set in extruded P.V.C. mouldings. Horizontal joints shall be flashed with a galvanised Z flashing tucked 50mm behind upper sheet and carried 20mm down over lower sheets.

Where shown, or noted on drawings, seal joints with a non-slump elastomeric sealant, applied as recommended by the makers, with surfaces primed as recommended.

Vertical boards and battens and shiplap boarding shall be fixed where shown. Both types of cladding shall be fixed to 50 x 40 dwangs or 75 x 40 timber walings at not more than 480mm centres.

Claddings shall be in continuous lengths.

Vertical boards and battens shall have weather grooves not more than 12mm from each edge and shall be fixed with not more than 6mm between boards. Unless noted otherwise, the timber for boards and battens shall be Redwood or Cedar, out of 200 x 25mm boards with battens out of 75 x 25, fixed below the boards. Nails for fixing shall be anodized aluminium. Ship-lap boarding shall be of suitable available timber. Laps shall be a minimum of 30mm with weather grooves on each face of laps.

See Bricklayer for requirements for brick or stonework veneer.

5.26 SOFFITS

Where shown on the drawings, line soffits with 6.0mm Hardieflex. Lining shall fit close to wall framing and shall fit into grooved fascia at outer edge. Joints in sheets shall be set into extruded P.V.C. mouldings. Fix with galvanised shear point nails.

Other soffit linings shall be as shown on the drawings, fixed according to standard trade practice.

5.27 EXTERIOR FINISHING TIMBERS

Supply and fix all exterior finishing timbers - fascias, barges, corner stops, scribes, etc., required to complete the works. Scribes shall be out of 12mm timber. All other finishing timbers shall generally be out of 25mm timber. Fascias to eaves shall be grooved to take soffit linings. Fascias to windows and exterior doors shall be out of 75mm wide timber unless otherwise noted. Fascias and barges to roofs shall be out of suitable width timber.

All joints in exterior finishing timbers shall be mitred and shall be primed before fixing. Mitres shall be neatly and accurately cut and fitted.

5.28 TIMBER DECKS

Where shown on the drawings, construct timber framed decks with plates fixed to wall framing as shown. Connect deck joists to wall plate with galvanised metal connector plates as shown. All fixing nails and bolts used shall be galvanised. Erect posts and beams to carry decks as detailed. All deck framing timbers, including joists, beams, posts, decking and balustrade, shall be treated to TPA C7 specification or better.

5.29 FLOORING

Lay high density, temporary water proofed, flooring grade particle board or T & G flooring as shown on the drawings. Joints in sheet flooring shall be made over supports. Where necessary, provide 75 x 50mm dwangs between joists to support joints. Fix flooring to joists not less than 10mm from edges around all edges of the sheets and at each intermediate joist at centres shown in the Nailing Schedule.

Where floor is required to act as a diaphragm, sheets shall be not less than 1.200 x 2.400, except where the building size prevents a full size sheet being used.

Where the flooring is to remain exposed, set out sheets to form a pattern and set contrasting timber strips between sheets where required in the addenda or shown on the drawings.

Timber strip flooring shall be tongue and grooved boarding closely cramped at joints. Generally, the timber shall be Rimu or Tawa. Minimum finished thicknesses shall be as required by Table 10 of NZS 3604 for the spacing of the joists.

Boards that do not have end matched joints, shall be joined only over joists. All joists shall be staggered. End matched boards may be joined between joists, provided that each length of unjointed board shall span between 2 or more joists and there shall be 2 or more unjointed boards between end jointed boards.

5.30 FLOOR SANDING

At the completion of the works, all nails in floor shall be punched and the floors shall be sanded to provide a smooth even surface. Where floors are to be varnished, they shall be finished with a fine paper. Particle board floors should be sanded with a rotary type sander. Care must be taken to avoid excess depth of sanding.

5.31 INTERIOR LININGS

All interior linings shall be fixed strictly according to the manufacturer's recommendations. See Schedule of Linings for materials. All lining material must be carefully handled and stacked on site to prevent damage.

5.32 GIBRALTAR BOARD

Where shown on the drawings and on the Schedule of Linings, line walls with standard 9.5mm Gibraltar Board or 9.5mm Gibfoil.

Sheets may be fixed horizontally or vertically, according to the details provided by the manufacturer, except that where the lining forms part of a wall bracing element, dawning must be provided at all edges of the sheets. Linings to exterior walls and ceilings, shall preferably be Gibfoil. Standard Gibraltar Board may be used but they must be fixed over a polythene vapour barrier. Where Gibraltar Board forms part of a wall bracing element or a ceiling diaphragm, they shall be fixed to framing all round and at intermediate framing as set out in the Nailing Schedule.

Except at bracing elements or ceiling diaphragms, linings may be fixed to framing using Gib Fix adhesive with supplementary nailing.

Leave gaps between joints in sheets. Where wallpaper is to be applied, stop joints and nails with 4F stopping plaster or Gibstopping compound, feathered out approximately 100mm each side of joint and trowelled to a smooth even surface. Where walls are to be painted, joints and corners should be finished using Gib Bedding compound, Perf-a-Tape and Gib finishing compound with stopping feathered out at edges. After stopping has set, sand lightly to a smooth surface using 120 grit abrasive paper. Fix timber or expanded metal strips at external corners of linings.

5.33 PINEX INSULATING BOARD

Where shown on the drawings or on the Schedule of Linings, line ceilings with 12mm pre-primed Pinex insulating board. Sheets shall be set out to form a pattern on the ceiling. Fix to roof framing or battens as shown with double angled nails or galvanised clouts as recommended by the manufacturer. At joints, sheets shall be veed and rebated and shall have a moulding inserted in the rebate. Joins in mouldings shall be mitred or scribed to suit. All fixing nails shall be stopped with 4F plaster and shall be lightly rubbed with a piece of scrap lining to provide a textured surface.

5.34 PINEX TILES, PLANKS AND PANELS

Where shown on the drawings and Schedule of Linings, fix Pinex tiles, planks or panels to walls or ceilings.

Linings shall be fixed to battens at ceilings as shown, stapled to framing as recommended by the manufacturer.

5.35 PRE-FINISHED WALLBOARDS (Formica wallboard, Seratone, etc.)

Where shown on the drawings, line walls and ceilings with pre-finished wallboards. Linings shall be fixed to framings with wallboard adhesive stik pads or similar. All joints shall be set in extruded P.V.C. mouldings.

Where linings are fixed in shower cubicles, the back and edges of sheets shall be primed for 100mm in from the edges before fixing.

Set the edge of sheets against baths into extruded P.V.C. bath-flash moulding, bedded down onto the edge of the bath in white butylmastic sealant. Clean off excess sealant.

Where a wall bracing element occurs, prefinished wallboard lining shall be fixed over the Gib Board or Hardboard lining forming part of the bracing element.

5.36 HARDBOARD

Where shown on the drawings or Schedule of Linings, line walls and ceilings with 4.5mm. or 6mm standard or oil tempered hardboard, fixed according to the manufacturer's recommendations. Joints shall be vee'd and butted or set into P.V.C. mouldings as specified. Except where used as part of a wall bracing element, linings may be fixed using wallboard adhesives.

5.37 PANELLING

Where shown on the drawings or Schedule of Linings, line walls and ceilings with selected plywood or solid timber panelling. Plywood shall be fixed with wallboard adhesive and or nailing with joints set in extruded P.V.C. moulding, butt jointed or with timber moulding between joints as specified. Where the sheets are butt jointed or have a jointer bead, the edges shall be planed to provide a true joint.

Shiplap or other solid timber lining shall be secret nailed. All boards shall be fixed true and plumb.

5.38 INTERIOR FINISHING TIMBERS

Provide and fix all skirtings, architraves, scotias, sillboards and other mouldings and beadings required to complete the works.

Where finishing timbers are specified to be clear finished, they shall be Rimu heart or figured as specified. Elsewhere they may be Rimu or finger-jointed, treated Radiata Pine or other available.

Joints in lengths of runs of skirtings or scotias shall be neatly and accurately mitred. At corner intersections, joints shall be neatly and accurately scribed to fit. Inaccurately fitted joints will be rejected.

Sillboards shall be out of 25mm timber, neatly fitted to jambs and mullions.

Skirtings shall generally be out of 100 x 25, bullnosed with grooved back.

Architraves shall be out of 50 x 25mm timber bullnosed with grooved back. Mitre corners and glue joint when fixing.

Drill holes for fixings at ends of all finishing timbers and fix with 40mm long panel pins. Any splits which occur through failure to drill holes or the use of excessively large nails, shall be glued to prevent later opening up. Split timbers may be rejected.

Before fixing in place, all finishing timbers shall be hand sanded to a satisfactory and acceptable finish.

Scotias shall generally be 40mm standard pattern. Where shown on the drawings, provide palmets over sliding doors and windows as detailed, or described on the addenda.

5.39 SHOWER

Frame up for shower where shown on drawings. Recess framing around shower tray to keep lining 5mm out from the upstand of the shower tray or pack framing out 5mm all round. Carry framing across the front of the cubicle.

Trim opening for sliding or folding door as shown on the drawing and in the addenda, and carry lining around jambs and sill.

5.40 BATH

Frame up cradle for bath out of 100 x 50 or 75 x 50 timber. Check out studs around top as necessary to house bath lip and allow P.V.C. bath-flash moulding to be seated on rim of bath.

5.41 SWITCHBOARD

Trim opening for switchboard and form box to carry switchboard with provision for the board to be hinged for access to wiring at the rear. Line the inner faces of switchboard box with Fyrestop Gib Board or 2 layers of 9.5mm Gib board. Fit door to face of switchboard with catch.

5.42 BATHROOM CABINET

Trim opening in wall in Bathroom to fit a recessed Cabinet. The cabinet shall be of the type and size noted on the addenda or other selected cabinet. The lining around the cabinet shall be neatly fitted to the sides of the cabinet.

5.43 INSULATION

Ground floor timber floors shall be insulated with Sisalation 737 or similar with perforations, laid over joists with 100mm draze between joists, placed before flooring is laid.

Insulate all exterior walls with R 2.0 fibreglass wall batts, placed in wall cavities. Line ceilings with R 2.2 fibreglass batts placed in cavities of framing or over ceiling joists.

5.44 HARDWARE

The Contractor shall allow in his tender, the P.C. sum for the supply of Hardware shown in the addenda. The Contractor shall allow for taking delivery of and fixing of all items supplied from the P.C. sum. See also Preliminary and General. Items to be charged against P.C. sums shall include door latches, locks and furniture, window fasteners for windows other than aluminium or J.M.F. windows, cupboard catches and pulls, sliding door tracks and fittings, towel rails, wardrobe rails and other similar items, but shall not include nails, bolts, screws, hinges, or similar connecting devices or fixings.

5.45 BUILT-IN OVEN

If shown on the drawings, frame up for built-in oven unit. The framing shall be out of 75 x 50 timber on edge or flat if shown. Frame up to the sizes shown on the drawings or to suit the selected unit, from installation leaflet provided. Provide shelves and vents as required and indicated on the leaflet.

5.46 HEATING APPLIANCES

Where shown on the drawings, make provision for the installation of built-in or free standing metal fireplaces or supplementary water heaters. Provide hearth slabs as required. All heaters are to be installed strictly according to the recommendations of the manufacturers and the Local Authority requirements. Provide heat resistant linings and clearances from walls and fittings as detailed on the installation instructions provided with each unit. Hearth slabs shall be precast of sizes shown and with the surface finish as shown on the drawings or in the addenda.

5.47 GARAGE DOORS

Supply and install Garage doors of the sizes and types shown on the drawings or in the addenda. All doors shall be provided with locks and all fittings and operating gear and shall be installed according to the manufacturer's details.

5.48 VANITY UNIT

Install vanity unit where shown on the drawings and arrange for the plumber to connect wastes, traps and taps. Vanity shall be to the P.C. sum shown in the addenda.

5.49 NAILING

All nailing to comply with Appendix B attached.

5.50 FLASHINGS

Arrange for the Plumber to provide machine folded flashings for exterior doors and windows out of machine folded 0.6mm galvanised steel. Provide flashings for heads and sills of windows and doors, and for jambs where no fascias are specified. Flashings shall be neatly fitted. Provide isolation strip where galvanised flashings are fixed over aluminium window frames.

JOINERY6.01 GENERAL

All dimensions of windows and joinery fittings shall be ascertained on site. The Joiner shall provide opening sizes in framing for windows or other units as required, to ensure proper fitting when delivered to site.

6.02 DOORS AND FRAMES

Doors shall be 1.980m high by the widths shown on the drawings.

6.03 EXTERNAL DOORS

Supply and fit external doors as shown on the drawings. Hinged doors shall be of sizes shown on the drawings. Generally, external doors shall be solid core, exterior quality flush doors. Frames shall be out of solid timber 50 mm thick, rebated and grooved for weathering. Sills shall be out of solid timber, rebated and throated for weathering. Hang on $1\frac{1}{2}$ pairs of 90mm butt hinges. Doors shall have clashing strip at both sides.

6.04 INTERNAL DOORS

Internal doors shall be .980 high x 40mm thick, hollow core, flush doors. Surfaces shall be suitable for finish as required by Schedule. Paint quality doors may be plywood, hardboard or bisonboard faced. Hang on $1\frac{1}{2}$ pairs B.M.A. finish, 90mm loose pin butt hinges. Doors shall have clashing at lock stile. Frames shall be out of 40mm timber, rebated at jambs or out of 25mm timber with planted stops. Unless otherwise noted, jambs shall be suitable for paint finish. Unless otherwise stated, jambs shall be rebated to receive linings.

6.05 ALUMINIUM DOORS

Where shown on drawings, supply and fix anodised aluminium sliding or hinged doors. Doors shall be complete with locks, rails, weather stripping and fittings. Door frames and framing to doors shall be neatly and accurately cut and fitted with mechanical jointers at corners. Frames shall be fitted with timber reveal linings and shall be fitted into openings according to the manufacturer's details.

6.06 WINDOWS

All windows shall be fabricated in properly equipped workshops by competent tradesmen fully qualified to fabricate and assemble the type of windows specified.

6.07 ALUMINIUM WINDOWS

Supply and install anodised aluminium windows as shown on the drawings. Windows shall be of approved manufacture. Details of window sizes and installation shall be supplied by the selected manufacturer before work is commenced to enable openings to be made to suit. Standard sized windows shall be used unless non-standard sizes are called for. Sashes shall be awning type, hung on Interlock stays or top hung or side hung, hung on stainless hinges as shown.

Sashes and frames shall be mitred at corners and securely fixed with mechanical jointers to hold the frames true and square. Joints shall be sealed with small joint sealant. Sashes shall close against flexible neoprene weather stripping all round. Frames and sashes shall have slots to allow infiltrating water to pass to the outside. Windows shall be supplied complete with glazing and ready for installation. Where required, double glazing shall be provided using Thermopane glazing units. Sashes shall be fitted with a pair of wedge fasteners to each sash and Securilock fittings where specified on the addenda.

Unless otherwise specified, frames shall be supplied complete with factory fitted, ex 25mm timber reveal linings, grooved to receive wall linings. Unless otherwise noted on the drawings or in the addenda, reveal linings shall be suitable for paint finish.

6.08 J.M.F. WINDOWS

Where shown on the drawings, supply and install J.M.F. timber windows of sizes shown. Where possible and unless noted otherwise, the windows shall be from the range of standard sizes.

The windows shall be Sundyne window Range 2, improved frame system, with a flexible P.V.C. airseal strip at sashes. All windows shall be supplied factory pre-primed. All windows shall be manufactured by licensed fabricators and shall conform to the standard details and specifications of the J.M.F. Group. Sashes shall be awning type, hung on Interlock stays and shall be supplied with a pair of wedge fasteners to each sash. Frames shall be grooved to receive linings, unless otherwise specified. All fixed glass panels shall be glazed by the dry bead system. Sashes shall be putty glazed.

Unless fixed glass sizes are such that the manufacturer recommends otherwise, all windows shall be factory glazed. The manufacturer shall arrange for necessary site glazing. Glazing should be float glass or polished plate. Glass shall be of the thickness recommended according to the size of the panes and exposure of the site.

Any broken or cracked glass shall be replaced before the building is handed over.

6.09 STANDARD TYPE TIMBER WINDOWS

Where shown on the drawings, supply and fix timber windows of standard joinery manufacture. All windows shall be constructed to the standards accepted as being best trade practises.

Frames shall be out of solid timber, rebated, grooved and throated for weathering. Rebates at jambs, heads and mullions, shall be 12mm minimum. Provide 15mm rebate on exposed sites.

Sashes shall be top hung, side hung or awning type hung on Interlock stays, as shown on the drawings.

All fixed glass panels shall be bead glazed into frames.

All windows shall be glazed in the factory, unless the sizes of fixed panels are such that the glass may be broken. In these cases, the Joiner shall arrange for these windows to be glazed on site.

6.10 KITCHEN FITTINGS

All cupboards and fittings shall be fabricated by competent tradesmen in a fully equipped factory, according to best Joinery practices. The dimensions of all units are to be ascertained on site.

Fabricate all joinery units as detailed on the drawings, or allow the provisional sum shown in the addenda for these fittings.

Units shall be constructed with carcass work out of 25mm timber, cut and fitted to provide a rigid frame.

Unless preformed drawers are used, all drawers shall have fronts and sides dovetailed.

Provide sink and bench tops as shown with the tops coved to upstands at rear and sides as shown. Formica tops shall have stainless steel sink bowls 510 x 355 bonded and sealed into bench.

The finish to carcass work, door and drawer fronts and shelves, shall be as shown on the drawings or in the addenda. Unless otherwise required, shelves shall be out of 25mm timber, coreboard or particleboard suitable for painting.

All bench and cupboard units shall be backed with hardboard or bison board.

Standard proprietary kitchen units - Hostess, Glenkora, etc., shall be manufactured to the designs and standard of the designers.

The General Contractor shall take delivery of, and install all units, taking care not to damage any surfaces or fittings. He shall arrange to repair or replace, any damaged fittings or surfaces.

ROOF COVERINGS7.01 PRELIMINARY

The whole of the works shall be carried out in accordance with and shall conform to the By-Laws and Regulations of the Local Authority.

7.02 EXTENT OF WORK

This trade consists of the supply and fixing by approved fixers, of roofing and accessories.

7.03 CORRUGATED GALVANISED IRON ROOF

To roof areas where shown on drawings.

a) Materials

The corrugated Galvanised Iron shall be 0.45mm gauge with min. $1\frac{1}{2}$ corrugation side laps and one length from ridge or hip to gutter.

b) Purlins

Fix over rafter at max. 750mm centres for 0.45mm gauge corrugated galvanised iron roofing 75mm x 50mm purlins on flat.

c) Underlay

Over Purlins stretch galvanised 50mm mesh wire netting securely fixed with galvanised staples. Over netting fix heavy quality building paper.

d) Fixing

Fix corrugated galvanised iron roofing with minimum $1\frac{1}{2}$ corrugation side laps. Fix alternative corrugations at fascia and every fourth corrugation elsewhere with lead head nails. Iron to project at fascia to give 40mm drip at spouting.

NOTE: Before fixing corrugated iron all laps and corrugated iron covered with ridging to be primed with Dulux Primer for galvanised iron.

e) Ridges and Hips

Fix over all ridges and hips 450mm wide by 0.45mm gauge galvanised iron lead edged ridging. Fix through corrugated iron into purlins with lead head nails at every alternative corrugation in roofing.

f) Barge

Finish at barge with 0.45mm gauge square edge moulding lapping the roofing at least 2 corrugations.

7.04 GALVANISED IRON TRAY ROOFING

To roof areas where shown on drawings.

a) Materials

The galvanised iron tray roofing shall be either 300mm or 400mm 0.60mm gauge galvanised steel continuous from ridge to gutter with all down-turns and stop ends.

b) Underlay

Over Purlins stretch galvanised 50mm mesh wire netting securely fixed with galvanised staples. Over netting fix heavy quality building paper.

c) Fixing

Form stop ends to all sheets where shown on drawings to obtain a full 50mm turn up of tray with all ends flattened against the turn up. No dipping of the pans in front of the turn ups will be acceptable.

The roofing shall be fixed with galvanised steel strip clip continuously fastened to every purlin, with an additional galvanised steel single side fix clip used at every fixing around the perimeter of the roof area. Form downturns to gutter edges of roof to approximately 20 degrees to the horizontal. Fit all ridge or hip cappings as required.

7.05 CONCRETE ROOF TILES

To roof areas where shown on drawings.

a) Materials

The tiles shall be Monier "Centurion" (colour as selected by owner).

b) Underlay

Over the whole of roof area fix underlay of 6.8kg saturated roofing felt. Lap over all hips, ridges and over fascia board far enough to give drip into gutter. Where the rise of the fascia above rafter top could cause ponding, an anti-ponding board or a device giving similar results should be provided.

Fix battens to a maximum gauge of 350mm. Size of batten shall be not less than that shown on the drawings, with rafter spacing up to 450mm centres 50mm x 25mm, between 450mm and 600mm centres 50mm x 37mm, between 600mm and 900mm centres 50mm x 50mm battens.

c) Tiling

Lay tiles to a minimum head of 75mm. Secure every eaves course tile, every top course tile, all perimeter tiles with 57mm x 25mm galvanised clouts on 50mm x 25mm battens and 76mm - 25mm galvanised clouts on 50mm x 37mm and 50mm x 50mm battens. Secure every alternative tile within the body of the roof.

The first course of Monier Tiling shall be fixed so as to provide an adequate projection over the fascia into the gutter.

d) Valleys

Cut Monier tiling neatly and cleanly to the rake of the valley leaving a gap of 75mm to 100mm between the cut edges.

e) Hips

Fix starter hip tiles at the foot of all hips. Cut Monier tiling closely to the rake of the hip. Cover all hips with Monier ridge tiles to colour as specified, bedded and struck pointed in cement mortar coloured to blend in with tiles. Hip and ridge tiles must be bedded solid only at the ends or at the junction of hip and ridge. Starter hip ridge and every alternative ridge to be mechanically secured.

Cover all ridges with Monier ridge tiles of selected colour bedded and pointed to match the tiles. The end ridge and every alternative edge must be mechanically secured. All ridge tile mortar must have weep holes fitted when mortar is still wet.

f) Mortar

All bedding mortar shall be specially mixed mortar and for this purpose shall consist of 4 parts clean sharp sand and 1 part cement and C.P. 30 or similar at the rate of 1.52 litres to 1 bag of cement. The mortar to be coloured to match tiling.

7.06 METAL ROOF TILE

To roof areas where shown on drawings.

a) Materials

The tiles shall be Harveytile or similar (colour selected by owner).

b) Underlay

Over the whole of the roof area fix underlay of an approved roofing felt. Lap over all hips, ridges and over fascia board to give drip into gutter.

c) Battens

Cut battens to manufacturer's recommendations from 75mm x 50mm giving 2 battens. Battens to be fixed at maximum 363mm centres with first batten 330mm from face of fascia.

d) Tiling

Lay tiles as recommended by manufacturer fixing to each tiling batten as work proceeds.

e) Ridges, Barges, Hips

Finish all ridges, hips and barges where shown on drawings, with coated cappings.

f) Valleys

Construct and finish valleys where shown on drawings as recommended by roofing manufacturer.

g) Flashings

Flash and over flash all projections through roofing. All flashings to be coated.

SOLID PLASTERER8.01 PRELIMINARY AND GENERAL

Read and note all clauses under Preliminary and General of this specification where they apply to this trade.

8.02 WORK INCLUDED

The solid plastering or trowelling of all interior floor slabs, the front and back porch slab and steps, also terrace if shown.

8.03 MATERIALS

Cement: shall be as specified under "Concretor".

Sand: shall be river sand sharp and coarse grained and free of any foreign matter.

Hydrated Lime: shall be mill hydrated of an approved brand.

Adhesion Agents: if used shall be in accordance with maker's instructions.

Plasticising agents, used strictly in accordance with the manufacturer's specification, may be used in lieu of hydrated lime.

8.04 WORKMANSHIP

All to the best trade practice. Generally, where plastering is required by drawings, it means finishing to 12mm thickness with a mix of one part cement to three parts sand with 10% of hydrated lime added and finished to a straight and even surface with a wood float.

8.05 FOUNDATIONS

Concrete foundation walls shall be prepared by removing projections, making good any defects, straightening and finishing with a dash coat of 1 to 3 cement and sand applied to give a regular and satisfactory coverage. Texture finish as shown.

8.06 CONCRETE FLOORS (Main) See Drawings

Co-operate with Concretor and allow for plastering of main floor. Float up to true level and steel float finish to remove pattern. Do not over-trowel. A hard dense finish is required.

8.07 PORCH AND STEPS AND TERRACE (if shown)

Plaster up in one operation. One coat 12mm thick to terraces and porch slabs, 12mm thick to verticals and sides, etc. Wood float up then give light sweeps with steel float to remove blemishes.

8.08 VENTS

Supply and install pre-cast concrete or other suitable ventilators in foundation walls where shown.

8.09 COMPLETION AND CURING

Leave all work complete and clear away all plaster droppings. Keep work damp and maintain all finishes to the completion of the work.

DRAINLAYER9.01 PRELIMINARY AND GENERAL

Read and note all clauses under Preliminary and General of this contract where they apply to this trade.

9.02 EXTENT OF WORK

Work in this section of the contract comprises all surfaces and foul water drainage up to above ground level to connect to Plumber's work. Include 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.

9.03 STANDARD OF WORK

The whole of this work shall be carried out by experienced tradesmen to the satisfaction of the Owner and the Local Council Drainage Inspector. Shall conform to the 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.

9.04 MATERIALS

All materials shall be the best of their respective kinds.

General drains shall be 100mm diameter first class glazed earthenware with rubber ring joints. Where the Engineer approves in writing, plastic drainage pipes may be used. Pipes shall be laid and jointed as recommended by the manufacturers.

9.05 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.

9.06 DRAIN TRENCHES

The excavation of trenches for drains shall be accurately made with base clean 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.

All drains shall have a minimum cover of 500mm.

9.07 LAYING OF DRAINS

All drains are to be laid with the full length of the pipe bearing on the base. Pipes shall be laid and have the rubber rings secured with stainless steel tie wires as the work progresses. All changes in direction are to be carried out with purpose made fittings. Where the ground is unstable, the drains shall be laid on a concrete bed, minimum thickness 100mm, reinforced with 2 D12 rods and R10 U bars at 600mm centres. After the drain has been laid, bend U bars over, place 2 D12 rods longitudinally and completely surround the drain with 100mm of concrete. Provide additional support as shown on the drawings.

Provide inspection fittings at each change of direction, change of grade, junction of branch drains or at distances required by the Local Authority.

9.08 FALL IN DRAINS

The whole of the soil and stormwater drains are to be laid to a regular and even fall. The fall shall be not less than 1:60 for 100mm dia. drains.

9.09 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.

9.10 GULLY TRAPS

Gully traps shall be approved type, minimum 100mm diameter and shall be set level on a 75mm concrete bed, haunched to the side of the trap. No more than 4 waste pipes shall discharge into each gully trap. Provide ceramic, dished gully trap riser, complete with cast aluminium grating. The riser shall be bedded into the gully trap with cement mortar and shall be carried 75mm above the surrounding ground or paved area.

9.11 SEWER AND STORMWATER CONNECTIONS

Arrange for the Council to connect drain to sewer and stormwater where provided and pay all charges in connection therewith. If shown on the drawings provide single compartment septic tank in strict accordance with the requirements of the Local Authority.

9.12 COMPLETION

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

PLUMBER AND SHEET METAL WORKER10.01 GENERAL

The General Conditions and preliminary clauses shall also apply to this section of the works.

10.02 SCOPE

The Plumber shall provide all materials, plant and labour necessary for the proper completion of the plumbing work in conformity with local By-Laws, the Drainage and Plumbing Regulations 1978, and according to the intent of this specification, including such items not specifically mentioned herein, but which are necessary for a thoroughly workmanlike job. Upon completion, the whole of the works shall be left watertight and to the satisfaction of the Authorities and the Supervisor. Give all notices to arrange for, and pay for, all permits and organise all inspections of the works by the Local Authority.

10.03 MATERIALS AND WORKMANSHIP

All materials and fittings used in this trade shall comply with the requirements of the relevant current N.Z.S.S. or, where no such specification exists, with the requirements of the relevant current B.S.S. Notwithstanding the foregoing requirements, all materials and fittings shall comply with the requirements of the Local Authority and with best trade practice.

10.04 FLASHINGS

All notched roof flashings shall be supplied and fixed by Roofing trade. All other flashings at windows, doors and vents through roof, etc., shall be 0.6mm gauge galvanised steel, machine folded to the required shapes with all joints, junctions, etc., soldered.

10.05 SPOUTING AND GUTTERING

Supply and install metal or P.V.C. spouting and guttering as shown on the drawings or noted on the addenda. Metal guttering shall be of the type and size shown on the drawings and shall be fixed with clips to match profile. Diamond or similar, fascia gutters and straightline spouting, shall be fixed using concealed gutter brackets.

All spouting and gutters shall be fixed to fall not more than 1:600 with clips and fixings at centres recommended by the manufacturers.

Provide outlets in gutters where shown, with the gutter sole dished towards the outlet.

Provide outlets from downpipes from gutters. Downpipes shall be P.V.C. or seamed galvanised steel as shown on the drawings and addenda. Hold out from wall with standard brackets.

P.V.C. Spouting shall be of the type shown on the drawings and shall be complete with all brackets, stop ends, jointers and downpipe outlets. Erect according to the manufacturer's recommendations. Supply and fit P.V.C. downpipes where shown, complete with all brackets.

All downpipes shall discharge into stormwater drains. Carry downpipe below the top of the drainpipe, pack around to hold in place and haunch between drain and downpipe with cement/sand compo.

10.06 PIPING

Piping for water supplies shall be drawn copper or polybutylene piping (Qest Dux or similar approved).

All piping laid in concrete shall be protected by wrapping in Densotape or similar, for its full length. Piping laid in concrete shall be drawn copper tube or polybutylene, spirally wound with two layers of Densotape or hair felt, wrapped in opposing directions. No joints may be made in polybutylene piping in concrete. Polybutylene piping laid underground shall be protected from damage by sharp objects.

All joints in copper pipes shall be socketted and brazed with Silfos. Polybutylene piping shall be jointed only with special jointing fittings manufactured by the makers of the brand of piping used. Preference shall be given to Qest-Dux piping and Qicktite fittings in polybutylene. Piping shall be installed in long lengths. Polybutylene piping should be continuous as far as possible, for the whole length of the system. Thread pipes through holes drilled through the centre lines of framing. Where possible, pipes shall be curved to change direction but where curving is not possible, standard elbows and tees shall be used. Support all piping at recommended centres with ready made clips. Standard fittings and couplings for copper and polybutylene piping, shall be used, including couplings linking the two materials. Polybutylene piping may be used for both hot and cold water reticulation, except for circulating pipes between wet back and boiler units and hot water cylinders. Where wet back or boiler units provide supplementary heating of hot water, the first 600mm of pipe from the cylinder shall be copper. Where instantaneous gas water heaters are installed, the first 200mm of piping on the inlet and outlet shall be copper.

10.07 COLD WATER SUPPLY

From the toby connection of the Local Authority water supply, lay 20mm or 15mm i.d. pipe, buried 450mm underground to an isolation Stop Cock located in a suitable toby box located against the building foundations. Where a high pressure water reticulation system is specified, supply and fit a NEFA 3 in 1 stopcock and preset NEFA pressure reducing feed valve, or other suitable valves. From feed valve, take 20mm or 15mm i.d. lead to hot water cylinder and 20mm or 15mm i.d. branch, or branches, to service other cold water outlets, terminating at the bath. From this 20mm i.d. branch, take 12mm i.d. branches to sink, basins, tubs, washing machine, shower and W.C. flushing cisterns. From wall, use Qest Qickee supply set for connection to cistern and for exposed pipes to basins.

From main supply, before the pressure reducing valve, take 12mm i.d. branch to provide supply for exterior hose taps. Provide stopcock on supply line to hot water cylinder.

Where a low pressure water supply is specified, using a water storage tank, lay 20mm i.d. pipe underground from toby to isolating stopcock with 12mm branches for exterior hose taps and 12mm branches to sink and flushing cisterns. The 20mm dia. main shall reduce to 12mm i.d. before entering the storage tank. Supply and install one 135 litre Nura rotational moulded polythene supply tank in roof space where shown, complete with tray, overflow, 12mm ball valve and ballcock, lids and other fittings. Take 20mm dia. outlet from tank leading to hot water cylinder and bath, with 12mm branches to basins, tub, washing machine, and shower. Note the 20mm dia. lead, or leads, should be carried to the second to last outlet on any branch. The final branch to outlets may be 12mm dia. The whole of the cold water system shall be charged to test for leaks before linings are fixed.

10.08 HOT WATER SUPPLY

Supply and install a hot water storage cylinder where shown on the drawings. The hot water cylinder shall be electric or gas and shall have the storage capacity shown on the drawing and addenda. Where specified, the cylinder shall have connectors for supplementary boiler or wet back heaters. Unless specified otherwise, storage heaters shall be standard storage heaters, Zip manufacture, complying with current N.Z. Standards in all respects. Heaters shall be cased and lagged and shall be fitted with drain pipe. Gas water heaters shall be Rheem manufacture and shall be installed in accordance with the maker's recommendations and the local Plumbing Authority and gas supply authority requirements. Provide and install flues for gas water heaters in accordance with By-Laws and recommendations.

Provide expansion pipe from storage heater, 20mm dia., extended above the roof level with pressure relief valve as required, or with low pressure system, turn exhaust to discharge over storage tank if in suitable location.

All piping conveying hot water shall be double lagged with plumbers' felt, spirally wound and bound to prevent unravelling. Each layer of felt shall be wound in opposing directions.

From expansion pipe, take branches to taps. Branch to sink shall be 12mm dia. Take 20mm diameter lead from expansion pipe to bath with 12mm branches of lead to shower, basins, tub and washing machine. The tub and washing machine branches may be taken from the sink lead if more suitable. Use Qickee supply sets for exposed leads to basin.

10.09 VENTS

Provide all vents from fittings as required by the regulations. Vents shall be in copper or P.V.C. Provide and install terminal vent in seamless material from branch on sewer and extend above roof level. Fix bird proof grilles to all vents.

10.10 WASTES AND TRAPS

Provide trapped wastes to all fittings. Wastes shall be of the sizes required by the P & D regulations. Vent wastes where and as required by the regulations.

Wastes may be copper or Dux polypropylene waste pipe system.

Polypropylene wastes shall be complete with all couplings, seals, clips and other fittings.

Where possible, waste pipes shall be concealed within the structure. Special care shall be taken to fix the wastes in unobtrusive positions. Provide cleaning eyes to all copper wastes. Where wastes pass through foundation walls, pack and seal to allow expansion and prevent access of vermin. Wastes through concrete slabs shall be wrapped in Densotape or similar.

10.11 FITTINGS

Supply and fix all fittings as shown on the drawings and in the addenda.

W.C. Pans: shall be vitreous china, washdown type, and shall be supplied and fitted complete with connector to waste, vent, double flap plastic seat - Dux or similar. Supply and fix Dux, centre flush, low-line cistern, complete with sparge pipe, ball valve, ballcock and overflow.

Bath: shall be enamelled cast iron, enamelled pressed steel, or plastic as shown or noted and shall be fitted onto cradle provided by the carpenter. Baths shall be first quality, free from chips or other blemishes.

Basins: Provide and install, vitreous china basin on c.i. brackets or plastic basins as shown on the drawing or on the addenda. Basins shall be provided with integral overflows. Plastic basins shall be recessed or surface mounted and shall be complete with skirted front as noted.

Vanity: Arrange with Carpenter to install a Vanity unit as required. Provide taps and wastes. See addenda for P.C. sum.

Tub: Provide and install a pressed or fabricated stainless steel tub, on brackets or cabinet as shown. See addenda for requirement.

Shower Tray: Shower trays shall be pressed stainless steel of the sizes shown, with 100mm high upstand all round.

Sink Bench: Provide a stainless steel sink bench of the size and type shown on the drawing or on the addenda, complete with 510 x 355 bowl. Provide waste outlet for waste disposal unit if required.

Taps: All taps shall be marked Hot and Cold. Taps shall be H.M.C. manufacture, or other selected. Allow for the following:-

Bath - faucet S383 x 20mm Starlight

Sink - swivel faucet - S343 x 15mm Starlight

Basins - S623 x 15mm Starlight

Shower - Feltonmix mixer

Tub - S483 x 15mm Starlight

Washing Machine - S413F x 15mm x 20mm Starlight

Outside taps - 2 brass bibcocks with hose ruffs

Provide and fit all stopcocks, gate valves, etc., required for the water reticulation system.

10.12 WETBACK HEATERS, BOILER UNITS, FREESTANDING FIREPLACES

Where shown on the drawings and noted in the addenda, provide and install supplementary water heating units or freestanding fireplaces. All units shall be installed strictly in accordance with the manufacturers details and to the Local Authority requirements. Arrange with the Carpenter to provide all protective sheeting required around units. Copies of details of installation requirements published by the manufacturers, shall be submitted to the local authority before installation is commenced. All piping from wet back or boiler units to hot water cylinders, shall be copper. Sizes shall be as recommended by the manufacturer, with vents as recommended.

Provide and install all flues, flue liners spacers, flashings caps and stays, required to complete the installation.

ELECTRICIAN11.01 PRELIMINARY AND GENERAL

Read and note all clauses under Preliminary and General of this Specification where they apply to this trade.

11.02 FEES

Pay all fees and charges and obtain all necessary permits for this trade.

11.03 SCOPE OF WORK

Carry out the whole of the electrical installations in strict accordance with the latest Electrical Wiring Regulations and Local Authority's By-Laws. Provide all lighting and power points as shown on the drawings or as otherwise directed by the Owners.

11.04 MATERIALS AND WORKMANSHIP

All materials used under this Contract shall be of approved British or New Zealand Standard Specification. Allow for all 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. All wiring shall be run in T.P.S. cable and shall be kept clear of insulation in walls and ceilings.

11.05 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.

11.06 COMPLETION AND CONNECTION OF POWER

Leave the 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 caused to the job once the Contract is complete.

11.07 POWER BOARD SUPPLY

Arrange with the Power Board, allow for and pay all fees for the connection of an underground or overhead supply to the residence. Arrange for any power poles required to carry overhead power lines.

11.08 METER BOX

Provide and install meter box where shown. Confer with Carpenter for trimming same. The meter box shall be recessed into wall and shall have a weather-proof cover.

11.09 MAIN SWITCHBOARD

Provide and install a recessed main switchboard, complete with all fuses, circuit breakers, switches, bell transformer, and auxiliary equipment. Arrange with the Carpenter to provide a cabinet for switchboard.

11.10 ELECTRIC STOVE

Provide wiring and switches for electric cooker where shown on the drawings. If separate oven and cooking top unit are to be installed, allow for wiring and switches for each unit.

The Electrician is to allow for taking delivery of and installing cooking appliances as shown on the drawings and addenda. Allow in contract the P.C. sum for the supply of cooking appliances as noted on the addenda.

11.11 HOOD OR AIR EXTRACT FAN

Provide and install a range hood or air extract fan where shown on the drawings with switches and power for the operation of same. The fan shall be of the size and type shown on the drawing or in the addenda. Allow the P.C. Sum shown in the addenda for the supply of the range hood.

11.12 SHAVEN POINT

Provide a point for electric shaver where shown on the drawing if also noted on the addenda.

11.13 SINK DISPOSAL UNIT

Provide wiring and switch for waste disposal unit to be fitted in sink if shown on the drawings or noted in the addenda.

11.14 HEATERS

Provide and install electric heaters, complete with Thermostats, where shown on the drawings. Heaters shall be the size and type shown on the drawings.

11.15 WATER HEATER

Allow for the connection of the water heater to the electrical system. Provide and install 1,500 watt, or other suitable sized element and thermostat to hot water cylinder provided by the Plumber. Provide switch for water heater on adjacent wall and flexible, metal sheathed cable to Element box.

11.16 POWER POINTS

All wall plugs shall be 230 volt, 10 amp 3-pin flush type with switches. Generally, install plugs 300mm above floor or 225mm above bench top. Points to washer, dryer and refrigerator - 1200mm from floor. The exact position of all power points shall be determined on the job by the Owner. Allow for the power points in the locations shown on the drawings. All power points are to be switch type.

11.17 LIGHTS

Provide light points where shown on the drawings. The Contractor is to allow in his tender to provide batten holder type fittings to all lights, with angled fittings to wall lights. All lights are to have flush wall mounted switches. All exterior lights shall be watertight fittings. Fittings under soffits shall be ball type.

11.18 LIGHT SWITCHES

Light switches generally, shall be 5 amp. all insulated P.D.L. micro-gap type or equal. Where indicated, fit flush type with plain flush plate. Fix switches generally 1200mm above floor. Provide dimmer switches where noted on drawings or required in the addenda.

11.19 SPECIAL FITTINGS

The Contractor shall allow in his tender for the supply of special light fittings to the value of the P.C. sum shown in the addenda. The Contractor shall allow in his tender for taking delivery of and fixing fittings supplied from the P.C. sum.

11.20 BELL

Provide transformer on switchboard for doorbell or ~~chimes~~ and provide wiring and bell push for the same. The bell or chimes are to be purchased from the P.C. sum allowance.

PAINTER AND GLAZIER12.01 PRELIMINARY AND GENERAL

Note all clauses under Preliminary and General of this specification which shall apply to this section of the work.

12.02 MATERIALS

In this specification, where the word "paint" is used, the reference shall also apply to varnish, unless obviously inapplicable.

Generally all materials shall be of N.Z. manufacture of approved brands. All paints and varnishes shall be delivered to the site in unopened cans. Paints shall be applied straight from the can, strictly according to the manufacturers recommendations. Any thinning of paint required shall be carried out strictly to the makers recommendations. Succeeding coats of paint shall be of the same brand, unless approved otherwise.

12.03 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 2239 "Painting of Building". Rub previously painted surfaces lightly with fine glasspaper between coats and wipe over with a tack rag to remove dust. All coats shall be laid off when finishing to remove brush marks. DO NOT PAINT OVER UNPUNCHED NAILS or other protruding fixings.

12.04 COLOUR SCHEMES

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.

12.05 STOPPING

After priming, all nail holes or joints are to be stopped with linseed oil putty and cleaned off before undercoating. Varnished work is to be stopped with matching putty after first coat of sealer. Stop all nailholes and gaps in finishing timbers.

12.06 EXTERIOR PAINTING

Prime all exterior woodwork unless oil finish is specified. After priming, all external woodwork and adjacent metalwork such as flashings, spouting and downpipes, is to be given one good coat of undercoat followed by finishing coat of high gloss paint. (Acrylic or enamel). Wipe down all metal work with solvent before priming. Priming coat shall be well brushed in and all faces shall be covered, ends of laps and tops and sides of sashes, doors, etc. Sashes and doors shall be painted with enamel paint, not acrylic. Hardieflex lining to eaves, soffits shall be painted with 2 coats of P.V.A. Latex paint. Asbestos cement cladding (Hardieflex) shall be painted with 2 coats of acrylic gloss paint or shall be finished with other surface treatment as noted on the drawings or in the addenda.

Exterior concrete block walls (except foundation walls) shall receive 2 coats of Resene, or other approved, concrete block sealer or Masonry filler, well brushed into surface, and applied strictly according to the manufacturer's specifications.

12.07 OIL FINISH

Where shown on the drawings or noted in the addenda, exterior woodwork shall be finished with 2 coats of clear or pigmented Resene weathering oil. The first coat should be applied before or straight after the timber is fixed in place. The second coat should be applied after 4 or 5 weeks.

12.08 INTERIOR PAINTING

Refer to plan or addenda for surface finishes. Wall linings and ceilings shall be given one coat of undercoat and finished with two coats of approved flat or semi-gloss paint as required. Where full gloss is required in kitchens, laundry or bathroom, finishing coat shall be full gloss enamel. Doors shall be painted on both faces and ALL edges. Allow to paint Kitchen cupboard and laundry cupboard doors, carcass and shelves, unless pre-finished surfaces are specified.

12.09 VARNISHING

Where varnishing is required, such as to doors, architraves and skirtings, give one coat of approved sealer, followed by two coats of clear varnish lightly sanding between coats. Seal and varnish both faces and ALL edges of doors. Varnish shall be gloss, semi-gloss or flat polyurethane as required.

12.10 CONCRETE

To concrete or concrete block base walls, apply two coats of exterior quality P.V.A. paint of an approved type - gloss finish. Paint base walls only where noted on the drawings or in the addenda.

12.11 PAPERHANGING

Where shown on the addenda, hang wallpaper or lining paper to walls, cupboards and ceilings. All walls shall be sized before papering. Lightly sand walls where necessary to remove excess stopping or protrudances. Wallpapers shall be hung plumb and true with edges carefully butt jointed. Carefully match all patterns and check rolls before hanging for variations in shading across the rolls or other defects. Any mis-matched or faulty papers, will be rejected and replaced, including hanging, at not cost to the Owners.

12.12 ROOF (Painting roof is required only if noted in the addenda)

Allow roofing to weather and clean down with solvent before painting. Roof - if corrugated iron, prime all laps before fixing. For corrugated iron or galvanised trough section roofing, after fixing, prime roof with calcium plumbate galv. iron primer and then apply 2 good coats of approved roof paint.

12.13 GLAZIER

Glaze all sashes, glass doors or screens with appropriate weight glass properly fixed and puttied or beaded into rebates. Where required, glazing shall be selected obscure patterned glass.

12.14 MIRROR

Where required, provide a 6mm plate glass mirror and mount on bathroom cabinet door with mirror clips, or as otherwise directed.

12.15 COMPLETION

At completion, clean all paint marks off glass and other surfaces, touch all damaged paint work and leave the premises ready for occupation.

LINTELS

Table 16

1.5 kPa and 2.0 kPa floor loads

Maximum clear width of opening (span of lintel) (m)	Maximum span of member supported*	Depth of lintel supporting:								
		Roof only where lintel thickness (mm) is: (Fig.40A)			Roof and walls only where lintel thickness (mm) is: (Fig. 40B)			All other cases where lintel thickness (mm) is: (Fig.40C)		
		50	75	100	50	75	100	50	75	100
(m)	(m)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)

A Light roof

0.9	8.0	125	100	100	125	125	100	125	125	100
	12.0	150	125	100	150	125	100	150	125	100
1.2	8.0	125	100	100	150	125	100	200	150	125
	12.0	150	125	125	200	125	125	200	200	150
1.5	8.0	150	125	100	150	125	100	250	200	150
	12.0	200	150	125	200	150	125	300	250	200
1.8	8.0	150	125	125	200	150	125	250	200	200
	12.0	200	150	150	200	200	150	-	250	250
2.1	8.0	200	150	150	200	200	150	-	250	250
	12.0	250	200	200	250	200	200	-	300	300
2.4	8.0	250	200	150	250	200	200	-	300	250
	12.0	300	250	200	300	250	200	-	-	300
2.7	8.0	-	200	200	-	250	200	-	-	300
	12.0	-	250	250	-	300	250	-	-	300
3.0	8.0	-	250	200	-	250	200	-	-	-
	12.0	-	300	250	-	300	250	-	-	-
3.6	8.0	-	300	250	-	300	250	-	-	-
	12.0	-	-	300	-	-	300	-	-	-

* The greater of roof dimension S (see clause 6.4.3.), span of joists, span of underpurlins, or span of strutting beam, as appropriate:

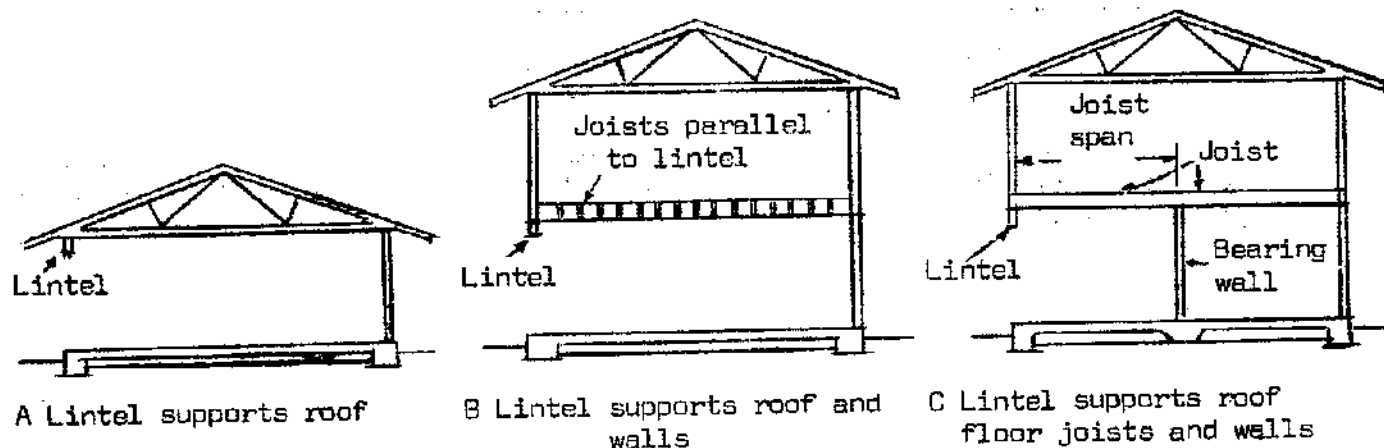


Fig.40 : Lintel loads for the purposes of Table 16

Table 16 (cont.)

LINTELS

1.5 kPa and 2.0 kPa floor loads

Maximum clear width of opening (span of lintel)	Maximum span of member supported*	Depth of lintel supporting:								
		Roof only where lintel thickness (mm) is: (Fig.40A)			Roof and walls only where lintel thickness (mm) is: (Fig. 40B)			All other cases where lintel thickness (mm) is: (Fig.40C)		
		50	75	100	50	75	100	50	75	100
(m)	(m)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)

B Heavy roof

0.9	8.0	125	125	100	150	125	100	150	125	100
	12.0	200	125	125	200	150	125	200	150	125
1.2	8.0	150	125	100	200	125	125	200	150	150
	12.0	200	150	125	200	200	150	250	200	200
1.5	8.0	200	150	125	200	150	125	250	200	200
	12.0	250	200	150	250	200	150	300	250	200
1.8	8.0	200	150	125	200	200	150	300	250	200
	12.0	250	200	200	250	200	200	-	300	250
2.1	8.0	250	200	200	250	200	200	-	300	250
	12.0	300	250	200	300	250	200	-	-	300
2.4	8.0	300	250	200	300	250	200	-	-	300
	12.0	-	300	250	-	300	250	-	-	-
2.7	8.0	-	250	250	-	300	250	-	-	300
	12.0	-	-	300	-	-	300	-	-	-
3.0	8.0	-	300	250	-	300	250	-	-	-
	12.0	-	-	300	-	-	300	-	-	-
3.3	8.0	-	300	250	-	-	300	-	-	-
	12.0	-	-	-	-	-	-	-	-	-
3.6	8.0	-	-	300	-	-	300	-	-	-

* The greater of roof dimension S (see clause 6.4.3.), span of joists, span of under-purlins, or span of strutting beam, as appropriate.

NOTE - Where a lintel supports one floor and non-loadbearing walls only then the lintel size may be obtained from the column headed "Roof and walls only" in Table 16B (heavy roof).

NZS 3604:1981

NAILING SCHEDULE

Table 30

Joint	Length (mm) x diameter (mm) and type	Number and Location
Subfloor framing		
Bearer to jackstud	100 x 3.75	2 (skewed)
Bearer to jackstud adjacent to cut-between brace...	100 x 3.75	4 (skewed)
Bearer end to cut-between plates	100 x 3.75	4 (skewed)
Bearer to top plate of wall framing	100 x 3.75	4 (skewed)
Flitch to each bearer end	100 x 3.75	4
Flitch to jackstud	100 x 3.75	4 (skewed)
Stud or jackstud to plate	100 x 3.75	2 (end nailed)
	or	
	75 x 3.15	4 (skewed)
Sheet material for subfloor brace to:	30* x 2.5 FH	
(a) Framing members at sheet edges		150 mm centres
(b) Intermediate supports		300 mm centres
Floor framing		
Joist to plate or bearer	100 x 3.75	2 (skewed)
Lapped joint in joist	100 x 3.75	2 (each side)
Flitched joint in joist	100 x 3.75	4 (each end)
Herringbone strutting to joist	60 x 2.8	2 (skewed)
Solid blocking to joist	100 x 3.75	2 (end nailed)
	or	
	75 x 3.15	4 (skewed)
Joist to plate on foundation walls	100 x 3.75	12 (skewed) per 1.5 m length
Solid blocking between joists to plate or bearer...	100 x 3.75	4 (skewed)
Boundary joist to end of each joist	100 x 3.75	2 (end nailed)
Curtailed joist not exceeding 3 m long to trimmer..	100 x 3.75	3 (end nailed)
Curtailed joist to trimmer when half housed	100 x 3.75	2 (end nailed)
Floor decking		
Strip flooring not exceeding 75 mm wide to floor ..	2½ x finished thickness	1
Strip flooring not exceeding 100 mm wide to floor ..	2½ x finished thickness	2
Sheet decking (not exceeding 21 mm thick) to:	60* x 2.8	
	or	
	57* x 11.1	
	x 1.8 mm	
	staples	
(a) Supports at sheet edges		150 mm centres
(b) Intermediate supports		300 mm centres

* See clause A6

NZS 3604:1981

Table 30 (continued)

Joint	Length (mm) x diameter (mm) and type	Number and location
Wall framing		
Stud to plate	100 x 3.75 or 75 x 3.15	2 (end nailed) 4 (skewed)
Double studs at openings, blocking and studs at wall intersections	100 x 3.75	600 mm centres
Doubling stud to doubled stud immediately under lintel ..	100 x 3.75	2
Lintel to trimming stud	75 x 3.15 or 100 x 3.75	4 (skewed) 2 (end nailed)
Bottom plate to floor framing at:	100 x 3.75	
(a) External walls and internal wall bracing elements ...		2 at 600 mm centres
(b) Internal walls		1 at 600 mm centres
Half joint in top plate	75 x 3.15	3
Sill or header trimmer to trimming stud for:	100 x 3.75	
(a) Trimmer not exceeding 2.4 m long		2 (end nailed)
(b) Trimmer not exceeding 3.6 m long		3 (end nailed)
Top plate 150 mm x 40 mm to 100 mm x 50 mm and top plate to lintel	100 x 3.75	2 at 500 mm centres
Dwang to stud	75 x 3.15 or 100 x 3.75	2 (skewed) 2 (end nailed)
Fishplate to straightened stud	60 x 2.8	4 each side of cut
Waling to stud	60 x 2.8	2
Ribbon board	100 x 3.75	2

Wall bracing elements

Diagonal bracing:		
100 mm x 25 mm brace to:	75 x 3.15	
(a) Plates		3
(b) Studs		2
Steel angle brace to:	60 x 3.15	
(a) Plates		3
(b) Studs		2
Steel strip brace to:	60 x 3.15	
(a) Plates		3
(b) Studs		1
Cut-between timber brace to stud	75 x 3.15	2 (skewed)
Sheet material to clause 6.9.2.2 and 6.9.6.2. ...	30* x 2.5 FH	
(a) Studs and plates at sheet edges		150 mm centres
(b) Intermediate studs		400 mm centres

* See clause A6.

Table 30 (continued)

Joint	Length (mm) x diameter (mm) and type	Number and location
Wall bracing elements (continued)		
Diagonal boarding:	60 x 2.8	
100 mm x 25 mm boards to studs and plates		2
200 mm x 25 mm boards to studs and plates		3
Sheet bracing:	30* x 2.5 FH	
Sheets to:		
(a) Studs and plates at sheet edges		150 mm
(b) Intermediate studs		300 mm centres
Stud strap to stud or joist	30 x 2.5 FH	6
Roof framing		
Rafter to ridge board	75 x 3.15	4 (skewed)
..... or	100 x 3.75	2 (end nailed)
Rafter to top plate:		
(a) Light roof in high wind areas where:		
(i) The rafter span exceeds 3 m, or	100 x 3.75	2 (skewed)
(ii) The rafter spacing exceeds 900 mm	plus wire dogs	2
(b) Light roof in medium wind areas where rafters are spaced at 1200 mm and rafter span exceeds 3 m.	100 x 3.75	2 (skewed)
..... plus wire dogs		2
(c) All other cases	100 x 3.75	2 (skewed)
Truss to top plate of internal wall	100 x 3.75	2
Ceiling batten to parallel top plate of internal wall bracing element	75 x 3.15	2 at 400 mm centres
Collar tie or cleat to rafter	75 x 3.15	4
Underpurlin to rafter	100 x 3.75	2 (skewed)
Fitches to ridge board and roof members from each side and on both sides of joint	60 x 2.8	3
Hip rafter to top plate	75 x 3.15	
(a) Heavy roof		4 (skewed)
(b) Light roof		2 (skewed)
Underpurlin strut to underpurlin or top plate or strutting beam:		
(a) Light roofs in high wind areas	100 x 3.75	2
..... plus wire dogs		2
(b) Other cases	100 x 3.75	2 (skewed)
Strutting beam to top plate:		
(a) Light roofs in high wind areas	100 x 3.75	2 (skewed)
..... plus wire dogs		2
(b) All other cases	100 x 3.75	2 (skewed)

* See clause A6.

NZS 3604:1981

Table 30 (continued)

Joint				Length (mm) x diameter (mm) and type	Number and location
Roof framing (continued)					
Roof braces, at each connection to a framing member:					
(a) 100 mm x 25 mm brace				100 x 3.75	2
				or	
				75 x 3.15	3
(b) 75 mm x 50 mm brace				100 x 3.75	2
(c) 100 mm x 50 mm brace				100 x 3.75	3
(d) Steel strip brace: (i) At ends				60 x 3.15	3
(ii) Other cases				60 x 3.5	2
100 mm x 50 mm blocking between rafters, joists or truss chords				100 x 3.75	2 (end nailed)
Jack rafter to hip or valley rafter				75 x 3.15	3 (skewed)
Jack rafter or jack truss to top plate:					
(a) Heavy roof				100 x 3.75	3 (skewed)
(b) Light roof				100 x 3.75	2 (skewed)
Outrigger to gable top plate:					
(a) Light roofs in high wind areas				100 x 3.75 plus wire dogs	2 (skewed) 1
(b) Other cases				100 x 3.75	2 (skewed)
Outrigger to rafter				100 x 3.75	2 (end nailed)
				or	
				75 x 3.15	4 (skewed)
Purlin or batten to outrigger				100 x 3.75	250 mm centres
Flying rafter to outrigger				100 x 3.75	2
Outrigger blocking to top plate				100 x 3.75	4 (skewed)
Purlin or batten directly (not through sarking) to rafter or top chord†					
Locality in roof	Maximum purlin spacing (mm)	Maximum rafter spacing (mm)	Wind area		
Light roofs:					
Body	1200	1200	all	100 x 3.75	2 (skewed)
Edge‡	1200	1200	high	100 x 3.75	2 (skewed)
				plus wire dogs	1
Edge‡	1200	1200	medium	100 x 3.75	2 (skewed)
			low		
Body	900	900	high	100 x 3.75	2
Body	900	900	medium	100 x 3.75	1
			low		
Edge†	900	900	all	100 x 3.75	2 (skewed)
Body	400	1200		100 x 3.75	1
Edge‡	400	900		100 x 3.75	1
Edge‡	400	1200		100 x 3.75	1
				plus	
				75 x 3.15	1 (skewed)

‡ The edge of the roof shall be taken as within 1/10th of the roof plan width measured from the fascia, barge, hip, or ridge line.

† Where purlins or battens are butt-jointed on a rafter or top chord, two 75 x 3.15 mm skew driven nails may be used at each member end.

Table 30 (continued)

Joint	Length (mm) x diameter (mm) and type	Number and location
-------	--------------------------------------	---------------------

Roof framing (continued)

Locality in roof	Maximum purlin spacing (mm)	Maximum rafter spacing (mm)	Wind area		
Heavy roofs:					
Anywhere	400	900	all	100 x 3.75	1
Anywhere	1200	900	all	100 x 3.75	2 (skewed)
25 mm thick purlins					
Anywhere	400	480	all	75 x 3.15 FH	1

Roof sarking

Board sarking to rafters or top chords:	2½ x finished thickness	
(a) Boards not exceeding 75 mm wide		1
(b) Boards exceeding 75 mm wide		2
Sheet material for sheet sarking to:	30* x 2.5 FH	
(a) Rafters or top chords at sheet edges		150 mm centres
(b) Intermediate supports		300 mm centres

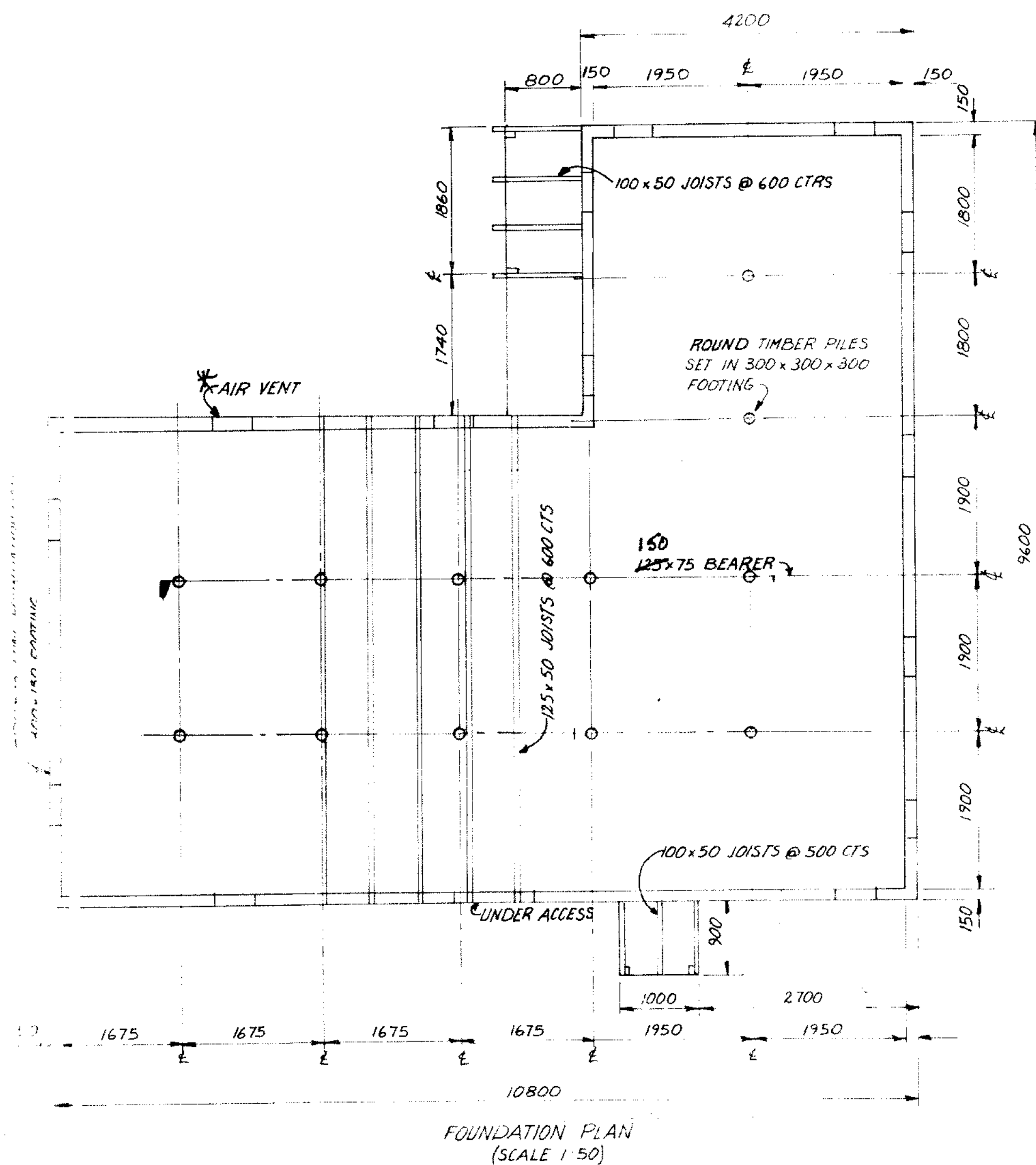
Ceiling framing

Ceiling batten to top plate	75 x 3.15	1
Ceiling joist to top plate	100 x 3.75	2 (skewed)
Ceiling joist to rafter	100 x 3.75	3
Lapped joint in joist	100 x 3.75	2 (each side)
Flitched joint in joist	100 x 3.75	4 (each end)
Ceiling runner to top plate	100 x 3.75	2 (skewed)
Ceiling runner to ceiling joist	100 x 3.75	2 (skewed)
Hanger to runner or joist	100 x 3.75	2
Ceiling batten to joist, rafter or truss:		
(a) 50 mm x 25 mm	60 x 2.8	1
	or	
	57 x 11.1	
	x 1.8 staple	1
(b) 75 mm x 40 mm	75 x 3.15	2
Dragon tie to top plate or blocking piece:		
(a) 100 mm x 40 mm	100 x 3.75	3
(b) Steel strip	60 x 3.15	6
Dragon tie to joist, truss or rafter:		
(a) 100 mm x 40 mm	100 x 3.75	2
(b) Steel strip	60 x 3.15	3
Blocking piece to top plate truss, joist or rafter	100 x 3.75	4

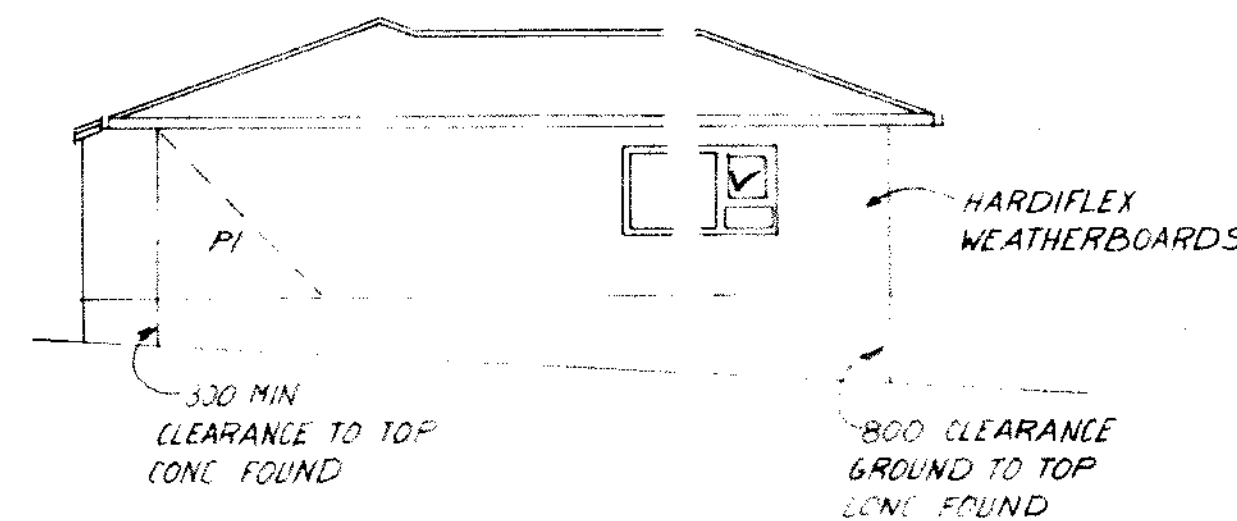
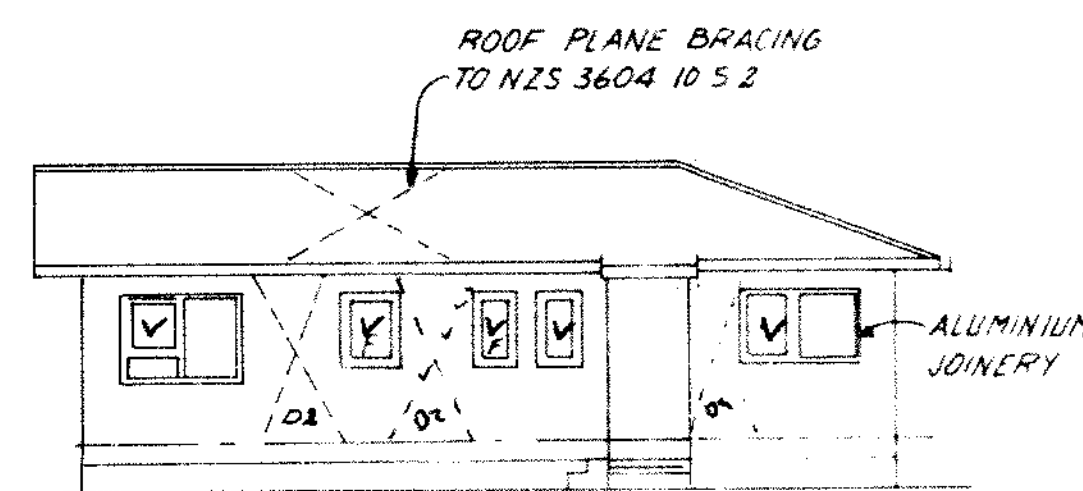
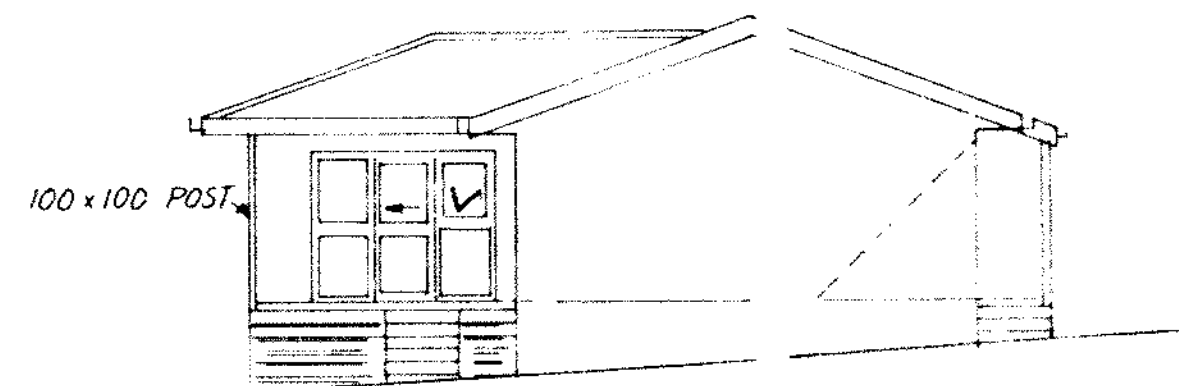
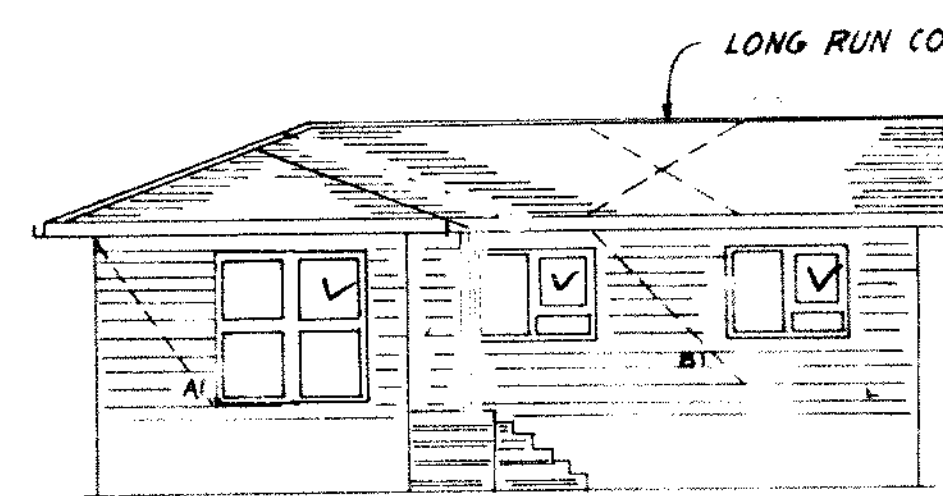
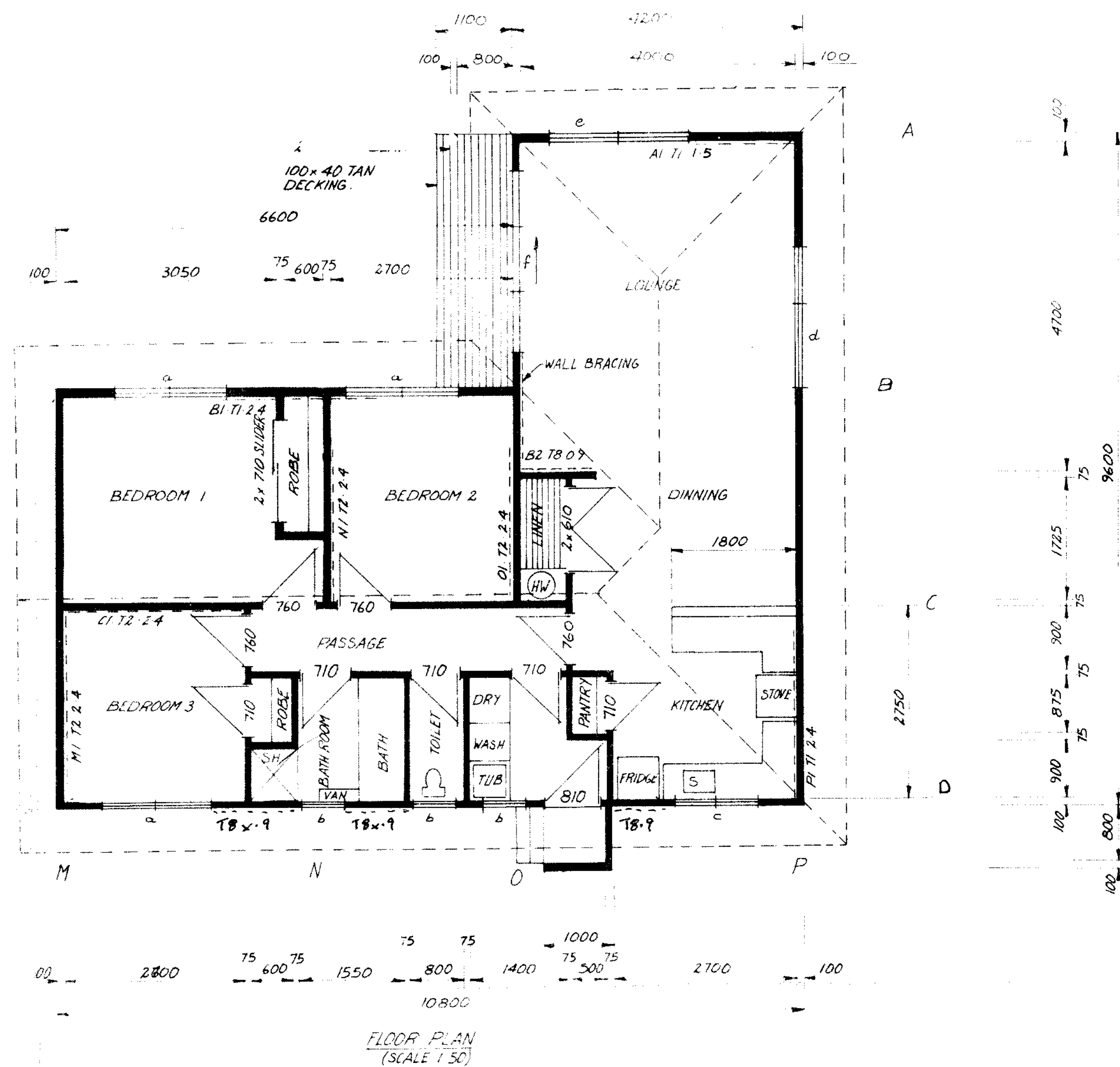
Ceiling lining

Sheet material for ceiling diaphragm to:	30* x 2.5 FH	
(a) Framing members at sheet edges		150 mm centres
(b) Intermediate supports		300 mm centres

* See clause A6.

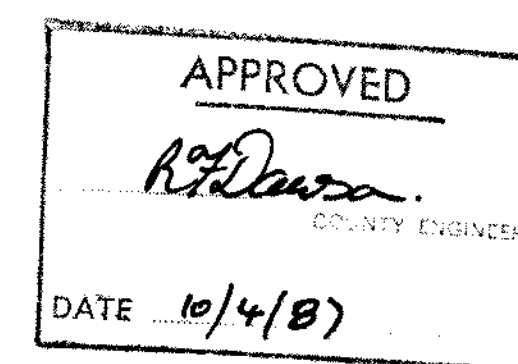
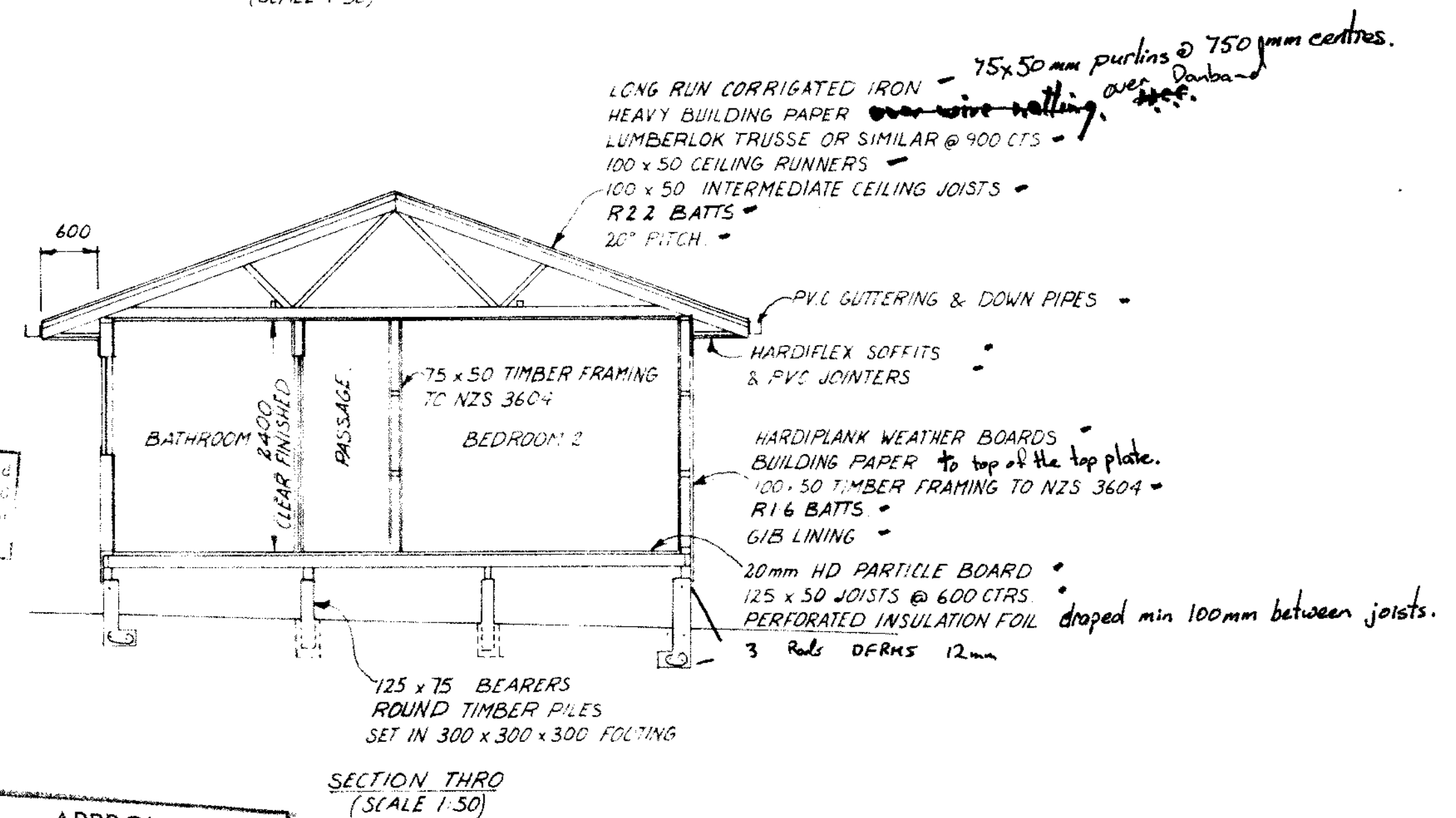


SCHEDULE OF WINDOWS	
a	1200 x 1600 WINDOW
b	600 x 1000 "
c	1200 x 1000 "
d	1200 x 2000 "
e	2000 x 2000 "
f	2600 x 2000 ANCH SLIDER



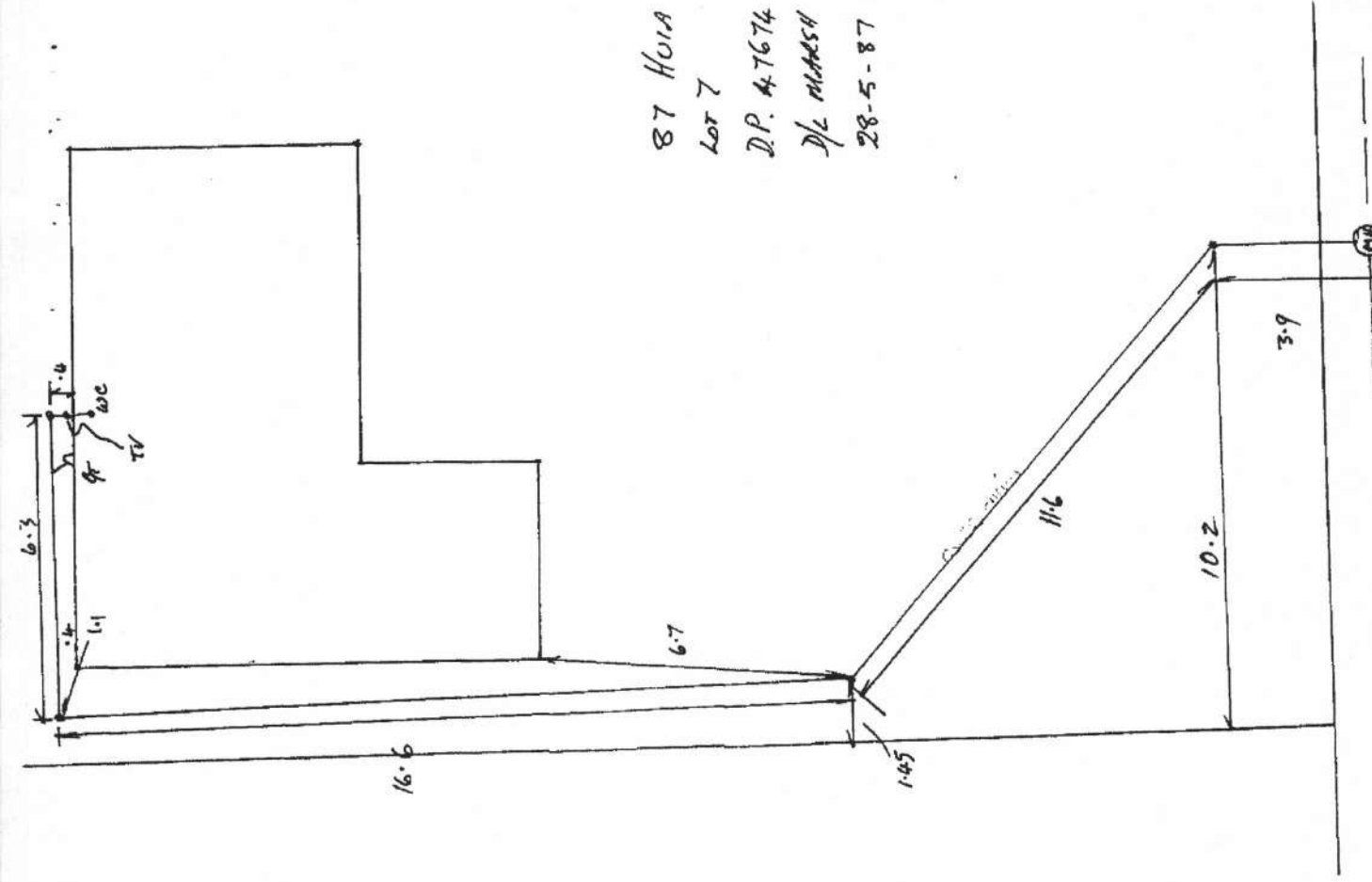
* provide min subfloor ventilation of 3500 mm² of ventilation opening per 1m² of floor area.

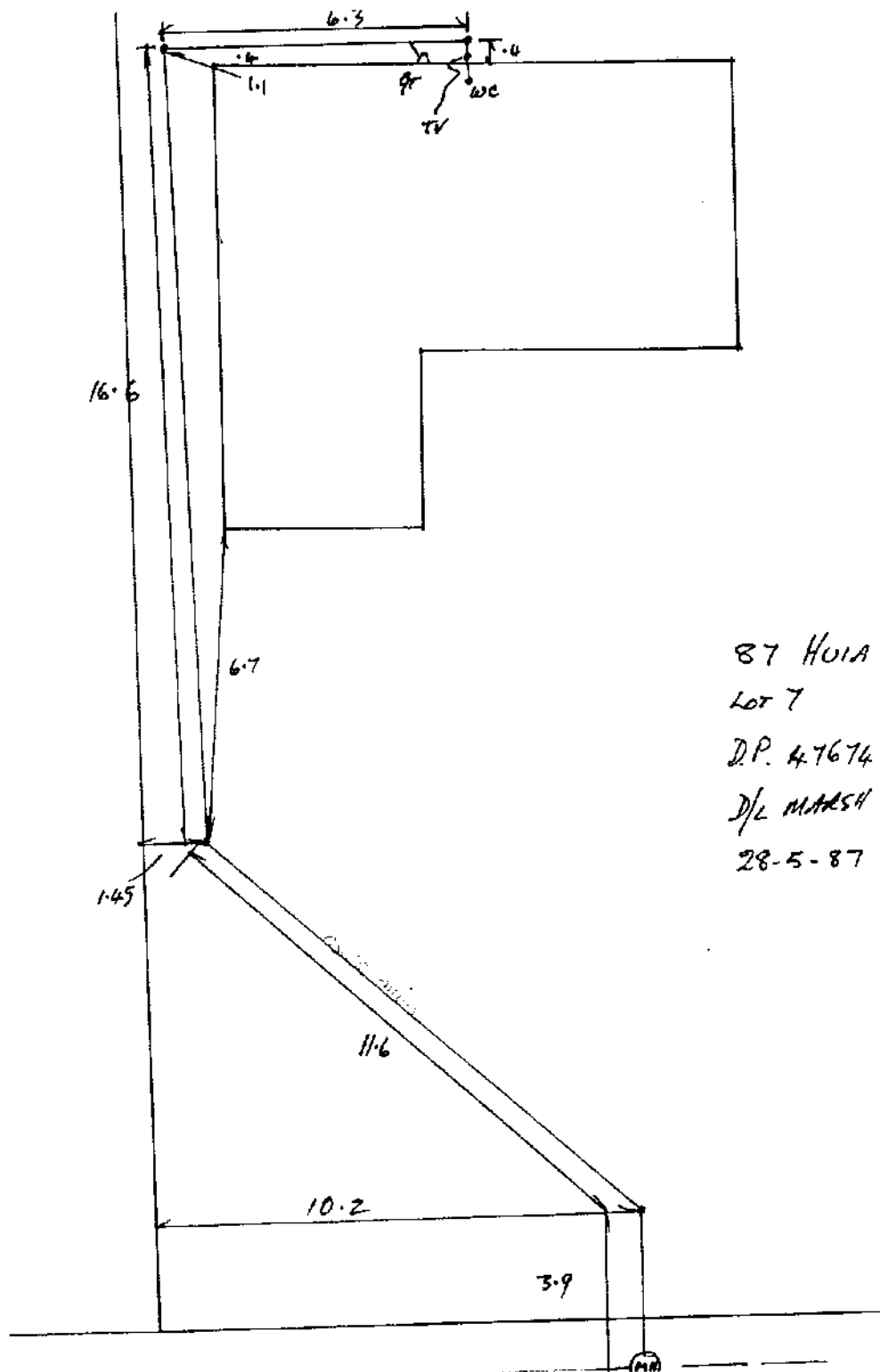
It is the responsibility of the owner and/or builder to ensure that proposed building levels are compatible with existing sewer connection levels.



DR DRAUGHTING SERVICES	TO OMAREPARE ST WHITBY PH 356 727	04 288
PROPOSED DWELLING MR & MRS D REED LOT 7, DP 47674 87 HUIA RD WAIKANAE		

87 Huia
Lot 7
D.P. 47674
D/L Matesh
28-5-87

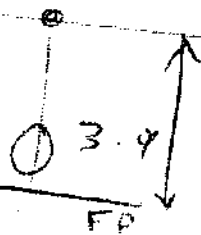
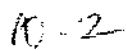
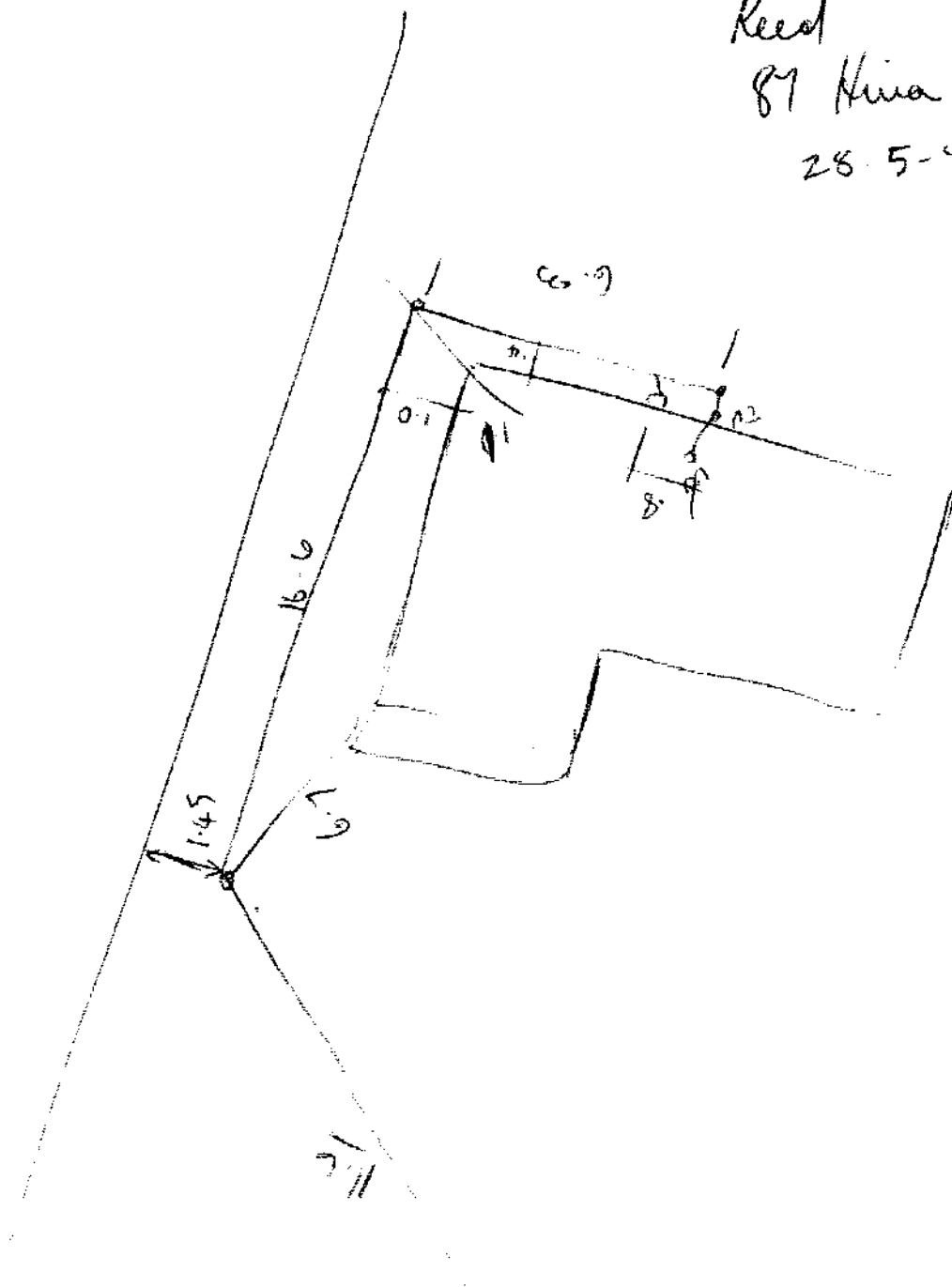


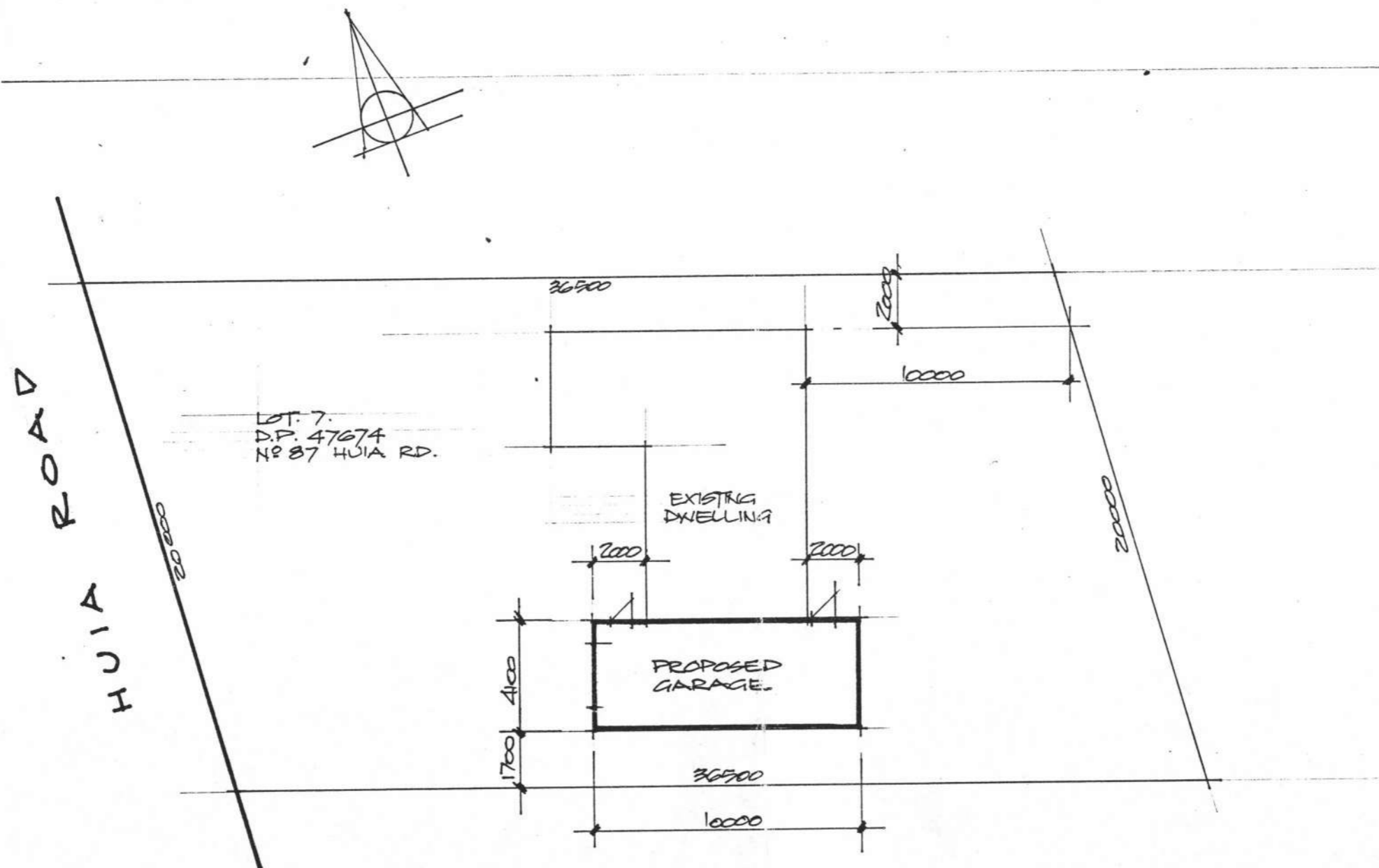


87 HUIA
LOT 7
D.P. 47674
D/L MARSH
28-5-87

Reed
87 Nina St

28. 5-87

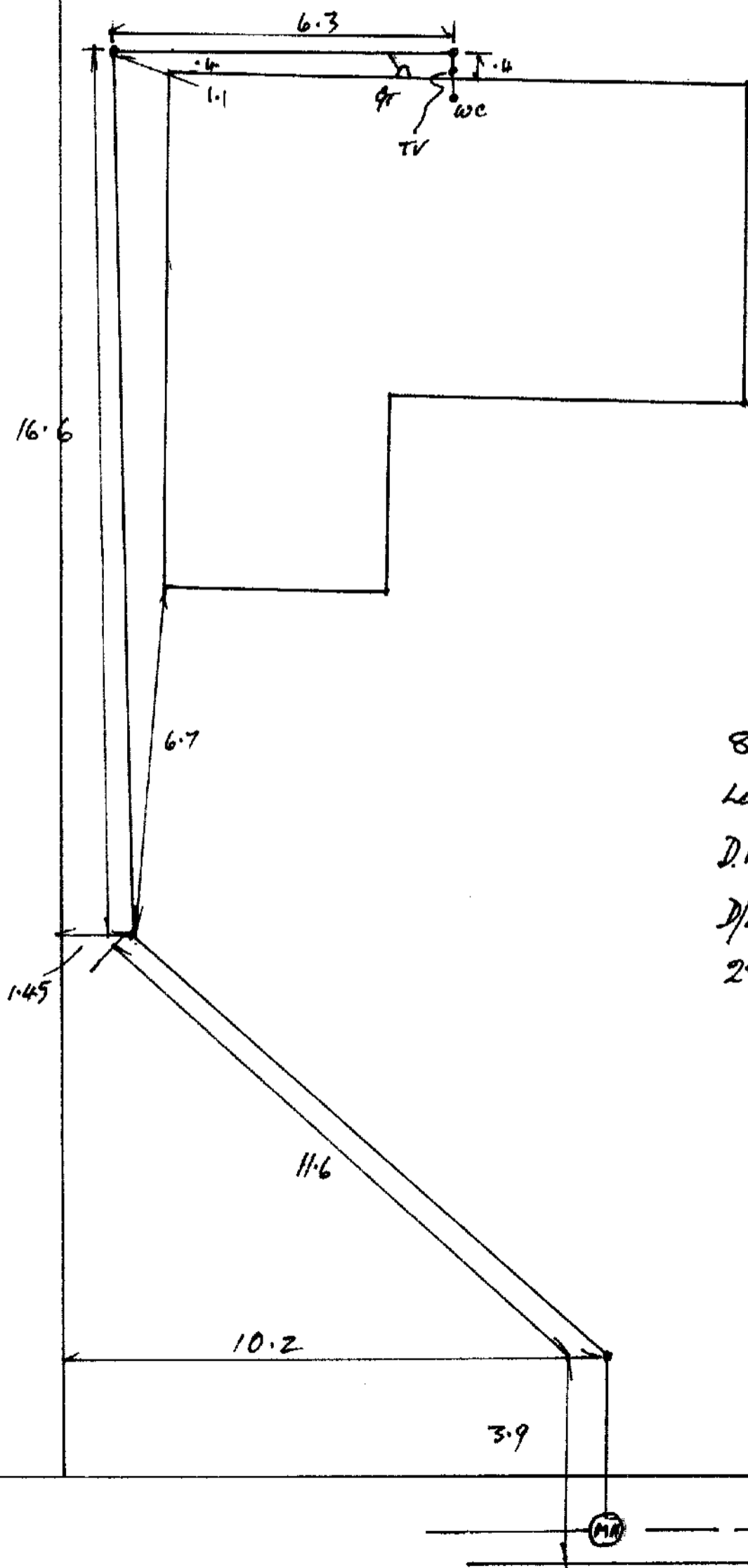




SITE PLAN / DRAINAGE PLAN

PROPOSED NEW GARAGE FOR MR. L. SENIOR
LOT 7 D.P. 47674 87 HUIA ROAD - WAIKANA E

DRAWN BY: P. YODWALD	DRAWING NO:
DATE: 9.2.02	
SCALE: 1:200	
CHKD.:	



87 HUIA ST
LOT 7
D.P. 47674
D/L MARSH
28-5-87