

# STATEMENT OF PASSING OVER INFORMATION

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We cannot guarantee its accuracy and reliability as we have not checked, audited, or reviewed the information and all the intending purchasers are advised to conduct their own due diligence investigation into the same.

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**SOLD ON KĀPITI**  
real estate



## Code Compliance Certificate

Section 43(3), Building Act 1991

### Application

Mr Roger Smith 71 Winara Ave WAIKANAE	No. Issue date	951109 9/10/97
	Overseer	BOB OLIVER

### Project

Description	NEW CONSTRUCTION BEING STAGE 1 OF AN INTENDED 1 STAGES NEW DWELLING
Intended Life	INDEFINITE, BUT NOT LESS THAN 50 YEARS
Intended Use	RESIDENTIAL
Estimated Value	\$80,000
Location	73A NGAIO ROAD, WAIKANAE
Legal Description	LOT 2 DP 23782
Valuation No.	1494161901

The Council's total charges paid on the uplifting of this Code Compliance Certificate in accordance with the following details are \$ 0.00.

This is a final code compliance certificate issued in respect of all the building work under the above building consent.

Signed for and on behalf of the Council:

Name: Jan Reisch

Date: 9.10.97



10.12.3  
RM 950426

15 December 1995

R E Smith  
34 Horopito Road  
WAIKANAE

Dear Sir/Madam

**APPLICATION FOR RESOURCE CONSENT (NON-COMPLYING) WHICH DOES NOT COMPLY WITH RESIDENTIAL ZONE YARD REQUIREMENTS AND DOES NOT COMPLY WITH A CONDITION OF A RESOURCE CONSENT PREVIOUSLY OBTAINED DATED 31 OCTOBER 1995 AT 73A NGAIO ROAD WAIKANAE**

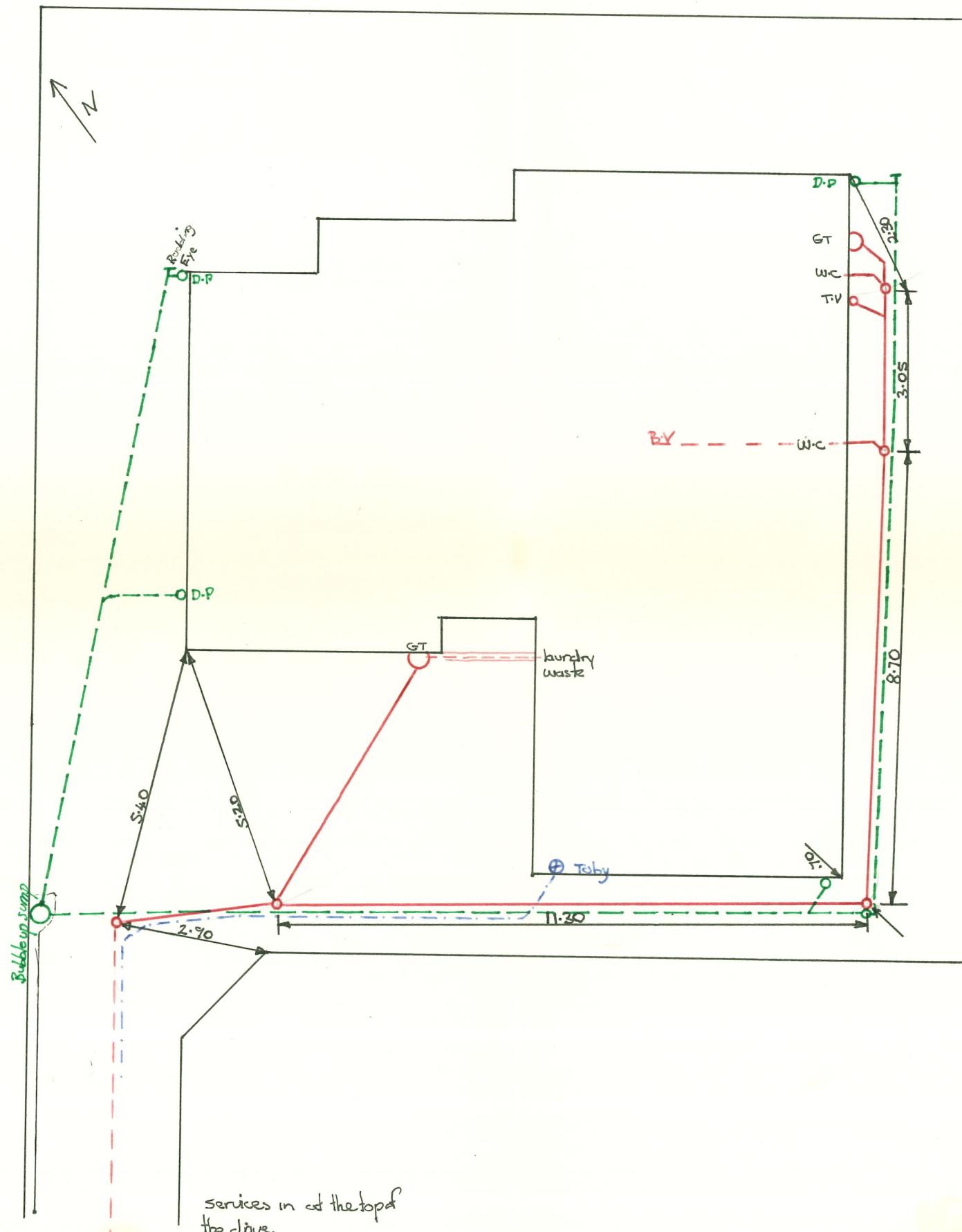
Your application for consent to a Non-complying Activity from the provisions of the Transitional District Plan and/or the Proposed District Plan relating to the erection of a new dwelling which, does not comply with Residential Zone yard requirements and does not comply with a condition of a previously obtained Resource Consent, has been considered by Council's Hearing Commissioners who have approved the application subject to the following conditions:

1. That the dwelling is sited and erected in accordance with the plans submitted to this Council on 11 December 1995, drawn by Rob Meecham Drafting and Design Service.
2. That a Building Consent is obtained for this proposal pursuant to the Building Act 1991.

Yours faithfully

  
W R Pearson  
**MANAGER, PLANNING**

NL





the exercise of a future power

**KAPITICOAST**  
DISTRICT COUNCIL  
BUILDING CONSENT  
Section 35, Building Act 1991

Applicant	Consent Details
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MR ROGER SMITH P O BOX 1616 PARAPARAUMU BEACH	Consent/PIM No.: 951109 Date issued: 26/04/96 Date of application: 1/11/95 Valn No: 1494161901 Overseer: Bob Oliver
---	---

Project Descrn: NEW CONSTRUCTION  
BEING STAGE 1 OF AN INTENDED 1 STAGES  
NEW DWELLING

Intended Life: INDEFINITE, BUT NOT LESS THAN 50 YEARS

Intended Uses: RESIDENTIAL

Project Location: 73A NGAIO ROAD, WAIKANAE

Legal Description: LOT 2 DP 23782

Estimated Value: \$ 80,000

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

Building Research Levy	\$ 1,406.00
Building Industry Authority Levy	\$ 80.00
TOTAL:	\$ 52.00
	\$ 1,538.00

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.

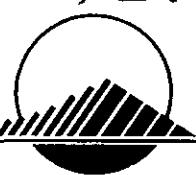
This building consent is issued subject to the conditions specified in the attached page(s) headed CONDITIONS OF BUILDING CONSENT 951109.

SIGNED FOR AND ON BEHALF OF THE COUNCIL:

NAME: Bob Oliver BUILDING CONTROL OFFICER DATE: 26/04/96



- 1 All foundations are to be to solid bearing minimum of 300mm
- 2 Work to comply with NZS3604-1990.
- 3 Metal head flashings required over all exterior joinery.
- 4 Note and comply with endorsements on approved plans.
- 5 Names and registration numbers of plumber and drainlayer are required before work commences.
- 6 Both hot and cold water pipes are to be tested to 1500 KPA pressure.
- 7 Owner/builder is to ensure that the proposed foundation height will allow a satisfactory drainage connection to the sewer main.
- 8 A tempering valve is to be installed on the hot water cylinder.
- 9 Minimum heights of finished concrete slab-on-ground floors above adjoining finished ground level to comply with Fig E 1 NZS 3604 1990.
- 10 NOTE WALL BRACING ENDORSEMENTS FOR BRACE DISTRIBUTION REQUIREMENTS.



# KAPITI COAST DISTRICT COUNCIL

Ref:

## BUILDING CONSENT ADDENDA 951109

APPLICANT: MR ROGER SMITH : P O BOX 1616 : PARAPARAUMU BEACH  
LOCATION: 73A NGAIO ROAD, WAIKANAE  
BUILDER: R SMITH

### General requirements

a) The District Inspector is to be given 24 hours notice before carrying out the following inspections.

INITIAL INSPECTION

FOUNDATION INSPECTION

PRE-CONCRETE SLAB INSPECTION OF PLUMBING

PRE-SLAB INSPECTION, CONCRETE FLOOR

PRELINING INSPECTION, MOISTURE TEST, CHECK BRACING

PRELINING INSPECTION OF PLUMBING

POST-LINING INSPECTION, LININGS, FIXED AS PER BRACE DESIGN

WATER TEST ON SEWER DRAINS

TEST ON STORMWATER

FINAL INSPECTION BUILDING

FINAL INSPECTION OF PLUMBING

FINAL INSPECTION GULLIES, ETC

b) To arrange for any of the above required inspections by the District Inspector, please contact Bob Oliver on (04) 298-0902 between the hours of 8.00 am and 4.30 pm.

### Conditions of consent

- 1 All foundations are to be to solid bearing minimum of 300mm



# KAPITI COAST DISTRICT COUNCIL

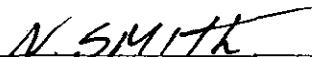
Ref:

## BUILDING CONSENT ADDENDA 951109 [Continued]

- 2 Work to comply with NZS3604-1990.
- 3 Metal head flashings required over all exterior joinery.
- 4 Note and comply with endorsements on approved plans.
- 5 Names and registration numbers of plumber and drainlayer are required before work commences.
- 6 Both hot and cold water pipes are to be tested to 1500 KPA pressure.
- 7 Owner/builder is to ensure that the proposed foundation height will allow a satisfactory drainage connection to the sewer main.
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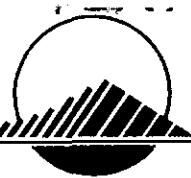
I have read the foregoing requirements and conditions of consent, and the Owner/Builder/Authorised Person hereby agrees to comply with them.

OWNER/BUILDER/AUTHORISED PERSON



DATE 26/4/96

Ngarara Building, Rimu  
Road, Private Bag 601,  
Paraparaumu.  
Telephone (04) 298-5139  
Fax (04) 297-2563



# KAPITI COAST DISTRICT COUNCIL

Ref:

## PROJECT INFORMATION MEMORANDUM Section 31, Building Act 1991

### Applicant PIM Details

MR ROGER SMITH  
P O BOX 1616  
PARAPARAUMU BEACH

Consent/PIM No.: 951109  
Date issued: 13/12/95  
Date of applicn: 1/11/95  
Valn No: 1494161901  
Overseer: Bob Oliver

Project Descrn: NEW CONSTRUCTION  
BEING STAGE 1 OF AN INTENDED 1 STAGES  
NEW DWELLING

Intended Life: INDEFINITE, BUT NOT LESS THAN 50 YEARS

Intended Uses: RESIDENTIAL

Project Location: 73A NGAIO ROAD, WAIKANAE

Legal Description: LOT 2 DP 23782

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 attached.

This project information memorandum includes:

- Details of relevant utility systems
- Details of authorisations which have been granted

SIGNED FOR AND ON BEHALF OF THE COUNCIL:

NAME: John Kirk BUILDING CONTROL OFFICER DATE: 13.12.95



## PROJECT INFORMATION MEMORANDUM

### Planning Requirements

APPLICANT: R Smith

MAILING ADDRESS: Box 1616 Paraparaumu Bch.

SITE ADDRESS: 73 a Ngao Rd Waikanae

LOT NO: 2 DP: 23782

PROJECT:  New Building  Alteration  
 Removal/Demolition  Relocated Building  
(approx age \_\_\_\_\_ years)

INTENDED USE: Dwelling

Residential (Household Sector)

ZONING: Residential (Rural District Plan)

USE PERMITTED: Residential

RESOURCE CONSENT GRANTED: Required

DESIGNATIONS ON PROPERTY: No boundary of any

EASEMENTS: Not existing the property

SITE SUBJECT TO INUNDATION: Not known to be

COASTAL BUILDING LINE RESTRICTION: NA

RELOCATABLE ZONE: NA

MINIMUM FLOOR LEVEL (50 year event) NA Metres above mean sea level

RECOMMENDED MINIMUM

FLOOR LEVEL (100 year event) NA Metres above mean sea level

YARD AND HEIGHT REQUIREMENTS: No boundary

TREE PRESERVATION: No knowledge of any

OTHER COMMENTS: Does not comply and is not

consistent with earlier Resource Consent obtained

31 October 1995.

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.





DISTRIBUTION

NATURAL GAS CORPORATION

KAPITI COAST DISTRICT COUNCIL

DATE 2-11-95

Cnr Kapiti Road &  
Te Roto Drive  
PO Box 138  
Paraparaumu  
New Zealand  
Phone: (058) 71 349  
Fax: (058) 83 598

PROJECT INFORMATION MEMORANDUM

Situation Address 73a NGAIO RD - WAIKANAE

Legal Description LOT 2 - DP 23782

Applicant R. SMITH

Date of Request 1-11-95

a) A gas main of medium/intermediate pressure fronts this property (refer attachment).

b) This property is serviced, or is traversed from one boundary point to another by medium/intermediate pressure gas pipeline (refer attachment). The following condition applies:

For any building work (as defined by Section [2] of the Building Act 1991) that will disturb over and around any gas pipeline or service and prior to the commencement of that work, the applicant shall be required to contact the nearest Natural Gas Corporation gas Centre for authorization to proceed.

c) No gas pipeline is in the vicinity of this property.

Yours faithfully

Note: No liability in the Corporation's obligations to the Building Act 1991 and the Local Government Official Information and Meetings Amendments Act (No 2) 1991 is implied by this and all attached documents. The Corporation does not accept liability for on site interpretation of the attached drawings. A pipe location service is available upon request.

FOR OFFICE USE



# KAPITI COAST DISTRICT COUNCIL

TELEPHONE (04) 298-5139 FAX (04) 297-2563

File

## PROJECT INFORMATION MEMORANDUM

(Electrical Supply)

APPLICANT: R. SmithMAILING ADDRESS: Box 1616 PaekakarikiSITE ADDRESS: 73 a Ngao Rd WaikanaeLOT NO: 2 DP: 23782

PROJECT: New Building  Alteration   
 Removal/Demolition  Relocated Building   
 (approx. age \_\_\_\_\_ years)

INTENDED USE: Residential

### INFORMATION TO BE PROVIDED BY HOROWHENUA ENERGY

Site Plan of Existing Services (if any): As attached plan.

Availability of Power:

Location: From XFMR T43 Ngao Rd, Waikanae

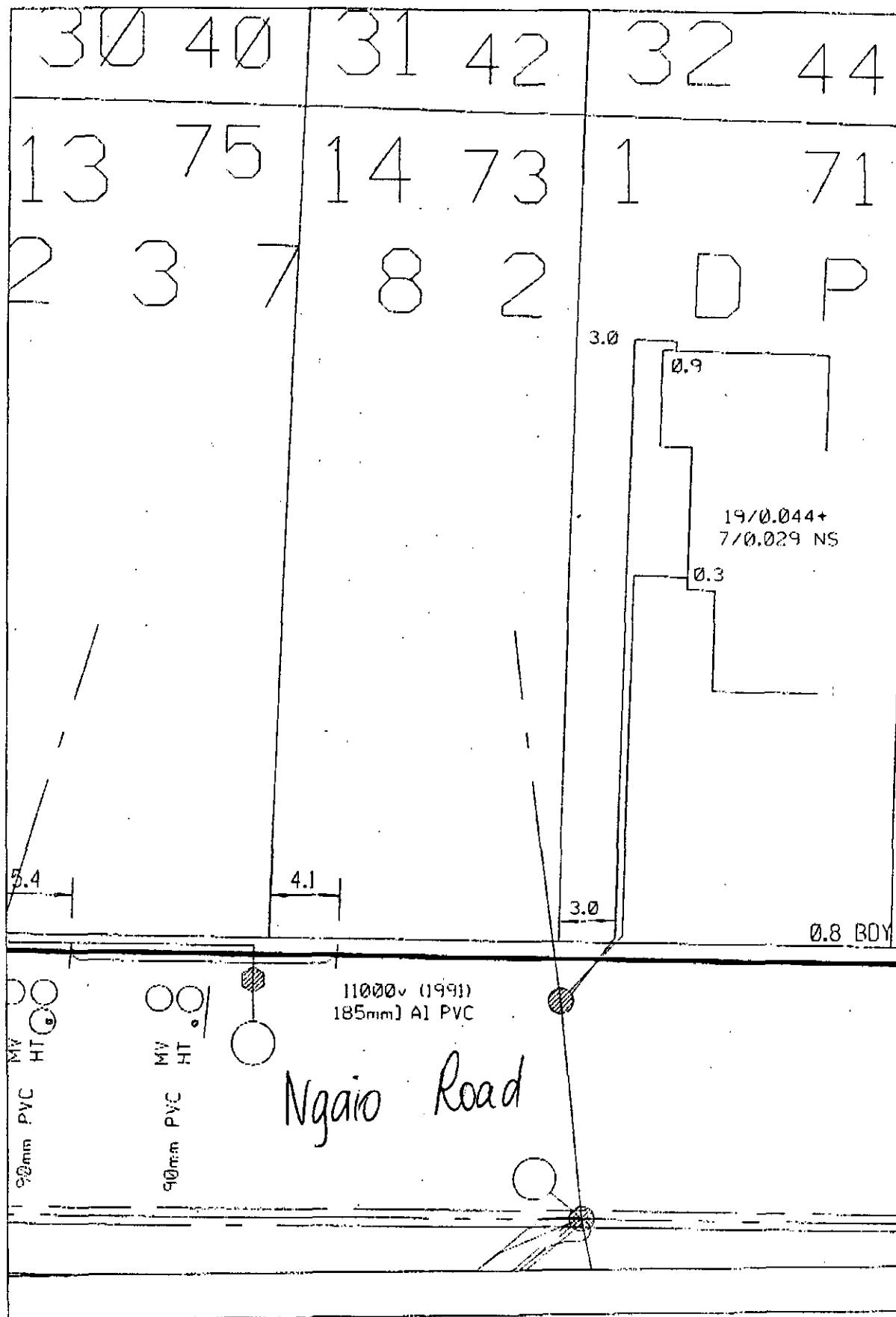
Reserve Capacity: \_\_\_\_\_

Location of Electricity Easement (if any): \_\_\_\_\_ / \_\_\_\_\_

Location of Overhead Lines Crossing Site (if any): \_\_\_\_\_ / \_\_\_\_\_

Requirements of Disabling Service (where applicable): \_\_\_\_\_ / \_\_\_\_\_

Horowhenua Energy Charges: \$ 20 mel G.S.T.









10.12.3  
RM950291

31 October 1995

R E Smith  
34 Horopito Street  
WAIKANAE

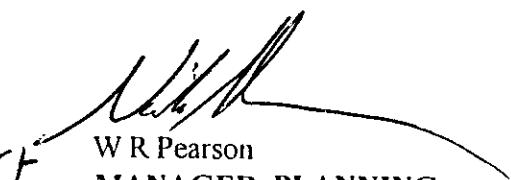
Dear Sir/Madam

**APPLICATION FOR RESOURCE CONSENT TO ERECT A DWELLING WHICH  
DOES NOT COMPLY WITH YARD REQUIREMENTS AT 73A NGAIO ROAD,  
WAIKANAE**

Your application for consent to a Non-complying Activity from the provisions of the Transitional District Plan and/or the Proposed District Plan relating to the erection of a new dwelling which does not comply with yard requirements at 73A Ngaio Road Waikanae, has been considered by Council's Hearing Commissioners who have approved the application subject to the following conditions:

1. That the dwelling is sited and erected in accordance with the amended plans submitted to this Council on 27 October 1995, drawn by Stevens McLennan and Associates for 'Smith'.
2. That a Building Consent is obtained for this proposal pursuant to the Building Act 1991.

Yours faithfully

  
W R Pearson  
MANAGER, PLANNING

NL



# KAPITI COAST DISTRICT COUNCIL

Ref:

7/12/95

MR ROGER SMITH  
R E SMITH  
34 HOROPITO STREET  
WAIKANAE

Dear Sir/Madam

Re your building consent application no. 951109  
NEW DWELLING  
73A NGAIO ROAD, WAIKANAE

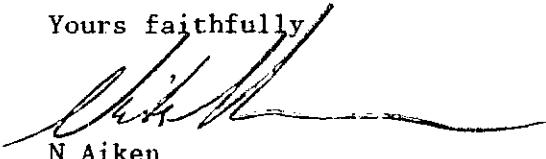
Your application for a building consent has been checked.

The proposal does not comply with the requirements of the  
Kapiti Coast Transitional District Plan in the following respects:

THE AMENDED PLANS SUBMITTED ON 24 NOVEMBER 1995  
DO NOT COMPLY WITH THE RESOURCE CONSENT OBTAINED  
ON 31 OCTOBER 1995. CONDITION ONE OF THAT CONSENT  
REQUIRED " THAT THE DWELLING IS SITED AND ERECTED  
IN ACCORDANCE WITH THE AMENDED PLANS SUBMITTED TO  
THIS (KCDC) COUNCIL ON 27 OCTOBER 1995, DRWAN BY  
STEVENS McLENNAN AND ASSOCIATES FOR SMITH".  
A FURTHER RESOURCE CONSENT WILL BE REQUIRED IF YOU  
WISH TO ERECT THE DWELLING IN ACCORDANCE WITH THE  
PLANS SUBMITTED ON 24 NOVEMBER 1995.

When your plans and/or specifications have been amended to  
conform with the above comments, approval of your application  
will again be considered.

Yours faithfully



N Aiken  
Planner

# KAPITI COAST DISTRICT COUNCIL

Form 3

## APPLICATION FOR BUILDING CONSENT

Section 33, Building Act 1991

To: Kapiti Coast District Council  
(Cross each applicable box and attach  
relevant documents in triplicate)

CONSENT NO  
951109

### PART A : GENERAL (Complete Part A in all cases - Refer over for Parts B-E, sign and date)

APPLICANT (OWNER*)		PROJECT
Name: <u>MR ROGER SMITH</u>	Address: <u>PO BOX 1616</u>	Cross One <input checked="" type="checkbox"/>
Mailing address: <u>PARADISEMUN BLD</u>	Alterations or additions	
Contact /Print Name and position: <u>MARK STEPHENS - DESIGNER</u>	Accessory Building or Fire	
Phone: <u>26 8212 5</u>	Building Demolition or Removal	
Being stage <u>1</u> of an intended <u>1</u> stages.		
Estimated value (inclusive of GST): \$ <u>80 000</u>		
Intended use, eg Dwelling, Carport, Garage, etc <u>DETACHED</u>		
Intended life: <input checked="" type="checkbox"/> Indefinite but not less than 50 years		
Specified as <u>      </u> years		
PROJECT LOCATION		
Street address (if any) <u>73c WAIKANAHE</u>		
Legal description (as shown on certificate of title or rates notice, if any): Lot <u>2</u>		
DP <u>23782</u>		
Valuation No. <u>1494161901</u>		
This Application is for: <input type="checkbox"/> Building Consent only, in accordance with project information		
FOR COUNCIL USE:		
NOTES:		

DEPARTMENT	REQUIREMENTS	COMMENTS	CHECKED/DATE STAMP
Town Planning	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		13-2-95 DATE ISSUED Consent may be issued DRAFT PLANNER RECEIVED 13-2-95 D. C. Smith
Drainage			13-2-95 DATE ISSUED Consent may be issued D. C. Smith
Stormwater	To Channel To Drain Confined to Lot		13-2-95 DATE ISSUED Consent may be issued D. C. Smith
Building			13-2-95 DATE ISSUED Consent may be issued D. C. Smith
Structural	Specific Design Foundation Structure Roof		13-2-95 DATE ISSUED Consent may be issued D. C. Smith
Subdivisional Engineer	Earthworks Bylaw Conditions		13-2-95 DATE ISSUED Consent may be issued D. C. Smith
Environmental Health			13-2-95 DATE ISSUED Consent may be issued D. C. Smith
Site- Footpath & Entrance Conditions	Ground S. Stoney R. O. W. Entry		13-2-95 DATE ISSUED Consent may be issued D. C. Smith



Application No: 951109

## SEE CALCULATION SHEET

Date: \_\_\_\_\_ Site Address: 73a Negao Rd new dwelling

ADMIN = \$36 per hour  
PLAN VETTING = \$60 per hour  
INSPECTIONS = \$40

TECHNICAL CONSULTANTS = Cost + 10%  
NETWORK UTILITY OPERATORS = Cost + 10%

## **CONSENT DATA INPUT REQUIREMENTS**

REQUIRED INSPECTIONS		STANDARD CONDITIONS		
14	/	2	.	17
1	/	3	/	18
7	✓	4	/	19
16	/	5		20
2	/	6		21
3	/	7	/	22
4	/	8		23
8	✓	9	✓	30
5	/	10	✓	
10	✓	11		
12	✓	12	✓	
6	/	13		
9	✓	14		
11	✓	15	✓	
13		16		
15				

### **NON STANDARD CONDITION**

Note wall bracing endorsements for brace distribution requirements



**KAPITICOAST**  
DISTRICT COUNCIL  
SITE CHECK SHEET

NAME: *R. Smith*

ADDRESS: *73 a Ngati Rd* LOT: *2* DP: *23782*

PROJECT: *Reselling* CONSENT NO: *951109*

WORK CANNOT PROCEED PAST EACH STEP UNTIL THAT STEP HAS BEEN INSPECTED, APPROVED AND THIS FORM SIGNED BY THE RELEVANT INSPECTOR. WORK APPROVED BY A CERTIFIER REQUIRES A BUILDING CERTIFICATE SUPPLIED BY THE CERTIFIER.

COMPONENT TO BE INSPECTED	INSPECTION REQUIRED (TICK)	INSPECTION CHECK RECHECK	COMMENTS AND/OR RECTIFICATION NOTICE NO	OK TO PROCEED YES/NO	ADDITION INSPECT YES/NO	DATE, SIGNATURE
FOUNDATIONS	/		<i>1st stage found to C.h. OK</i>	<i>Yes</i>	<i>No</i>	<i>24.5.96 B6</i>
Siting	/					
Footings - Piles	/					
Steel	/					
Min Floor Level Cert						
CONCRETE FLOOR						
Building	/					
P & D Wastes, etc	/		<i>Pipes OK under slab</i>	<i>Yes</i>	<i>No</i>	<i>28.4.96</i>
SUB FLOOR						
Connections						
Braces						
Blocking						
Insulation						
BLOCKFILL 1			<i>Blockwork OK</i>			
BLOCKFILL 2			<i>to proceed.</i>			
PRE-LINE						
Wall Framing	/					
Moisture	/		<i>%</i>			
Bracing	/					
Fixings	/					
Lintels	/					
Roof Framing	/					
Trusses	/					
Bracing	/					
Fixings	/					
P & D 1500 KPA test						
POSTLINE	/					
DRAIN TEST - SEWER						
DRAIN TEST - STORMWATER						

## FINAL INSPECTIONS

COMPONENT TO BE INSPECTED	INSPECTION REQUIRED (TICK)	INSPECTION		COMMENTS AND/OR RECTIFICATION NOTICE NO	OK TO PROCEED YES/NO	ADDITION INSPECT YES/NO	DATE, SIGNATURE
		CHECK	RECHECK				
Insulation	/						
Joinery & Flashings	/						
Glazing (Safety etc)	/						
Range/Bathroom Fans							
Comb, Heater/Chimney							
Floor Levels	/						
Post Connections	/						
Subfloor Ventilation							
Subfloor Access	/						
Room Ventilation	/						
EXTERIOR CLADDINGS							
Walls	/						
Roof	/						
Hot Water Temp							
HW Cyl, Valves & Restrains							
Waste & Drain Vents							
Gully Traps							
Spouting & Downpipes							
Stormwater Drains							
ENG SUPERVISION CERT							
FIRE FACILITIES							
EGRESS							
DISABLED							
EHO							

## BUILDING COMPONENTS DEEMED COMPLETED

CERTIFIER	SIGNATURE	DATE	CERTIFIER	SIGNATURE	DATE
Building			Services		
Plumbing			Resource Management		
Drainage			Air Conditioning		
EHO					
Lifts					
Compliance Schedule					

WORK IS NOW DEEMED TO BE COMPLETED. A CODE COMPLIANCE CERTIFICATE WILL BE ISSUED WHERE REQUIRED BY THE BUILDING ACT.

CODE COMPLIANCE CERTIFICATE NUMBER ...

Signature

Designation

Date

WHEN THE PROJECT IS COMPLETED THIS INSPECTION SHEET WILL BE ATTACHED TO THE RELEVANT PROPERTY FILE HELD AT THE COUNCIL OFFICE

COUNCIL COPY

RECEIVED  
24 NOV 1995  
KAPITI COAST  
DISTRICT COUNCIL

PROPOSED 3 BEDROOM DWELLING

at

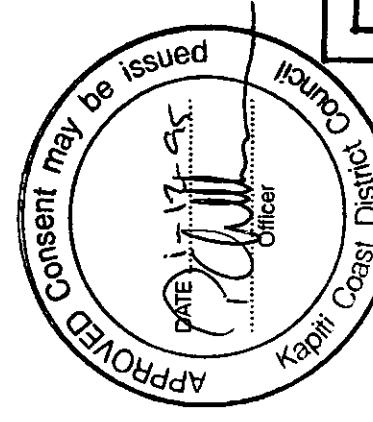
73a, NGAIO ROAD, WAIKANAE.

for

MR. ROGER SMITH. (Builder)

Nov. 95.

COUNCIL COPY

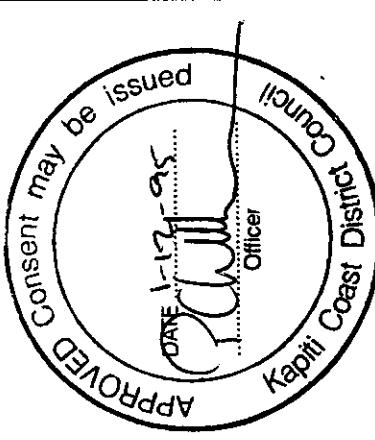
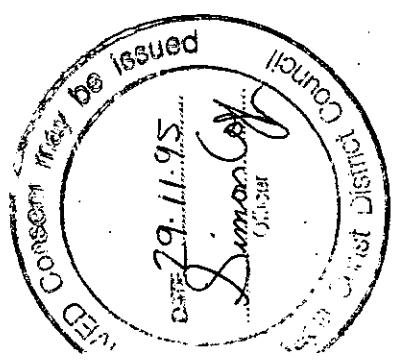


ROB MEECHAM DRAUGHTING & DESIGN SERVICE

PARAPARAHU

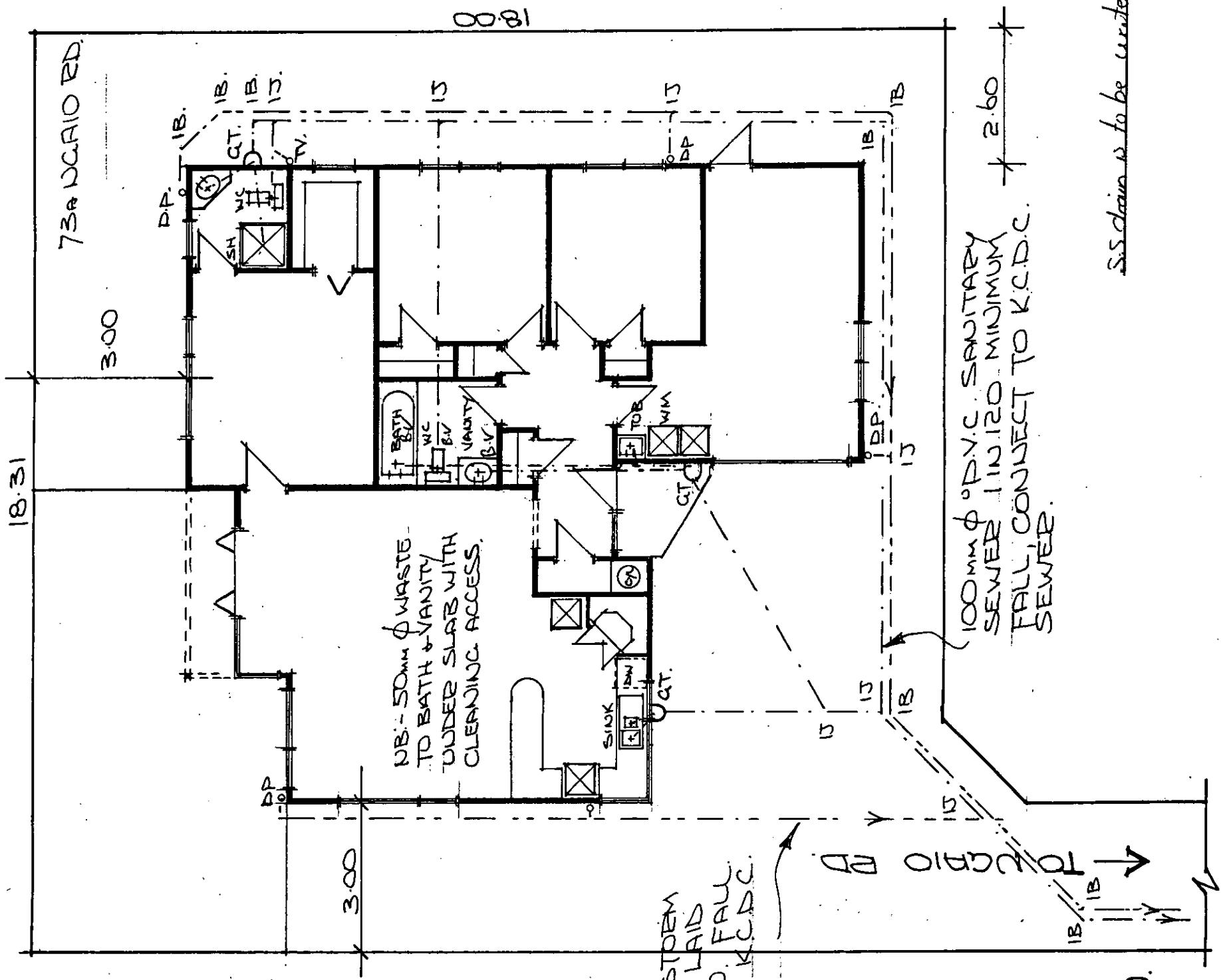
297 1174

COUNCIL COPY



ENSURE TO ENSURE THAT PROPOSED  
FOUNDATION HEIGHT WILL ALLOW A  
SATISFACTORY FRAMING CONNECTION  
TO THE SCAFFOLD LATH

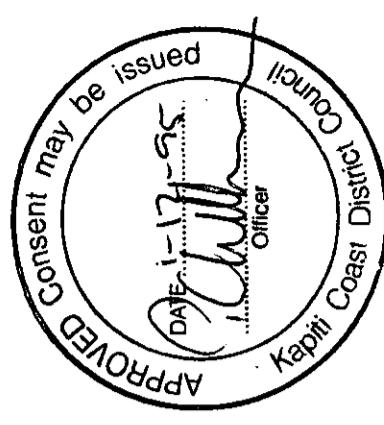
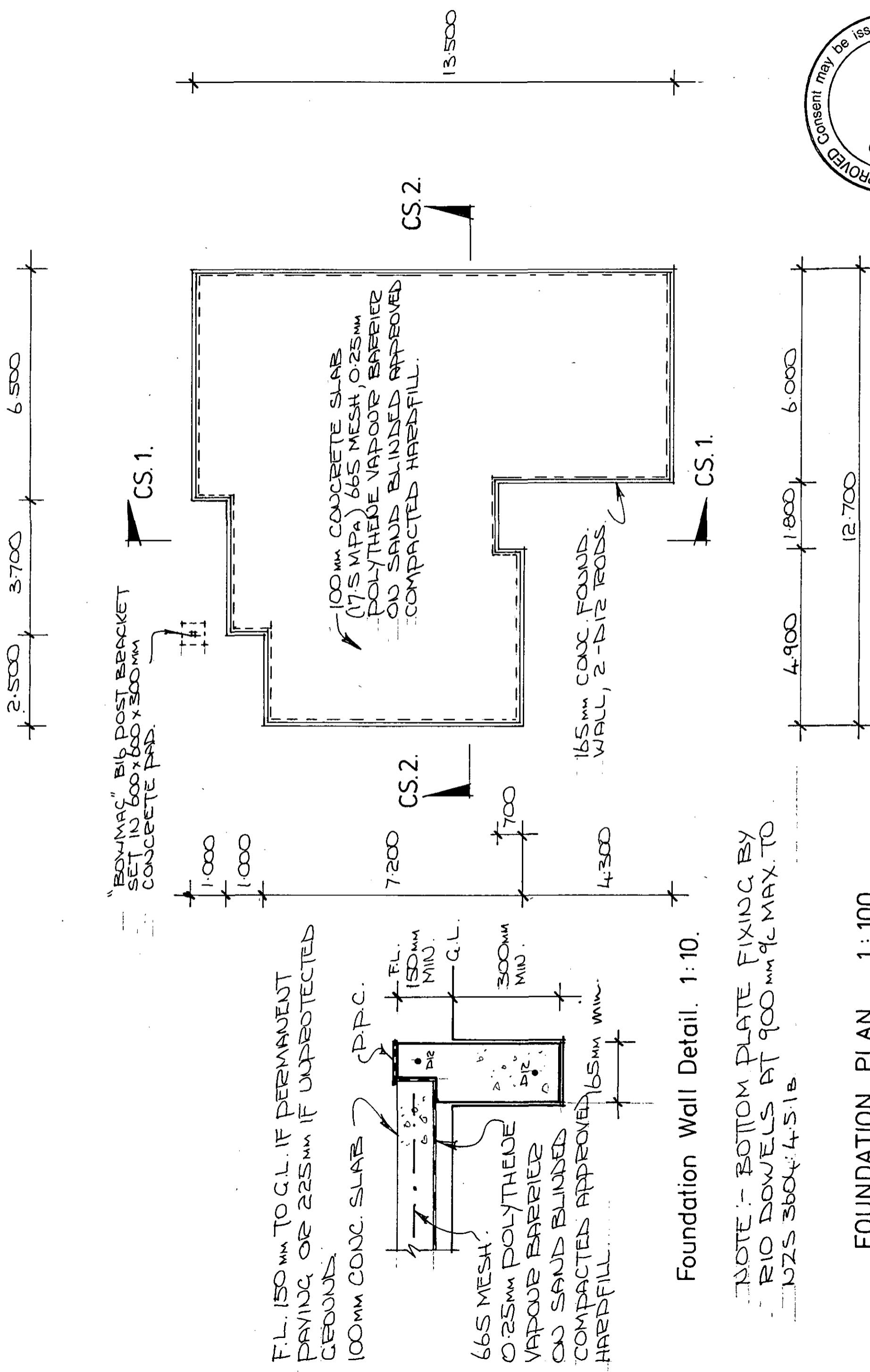
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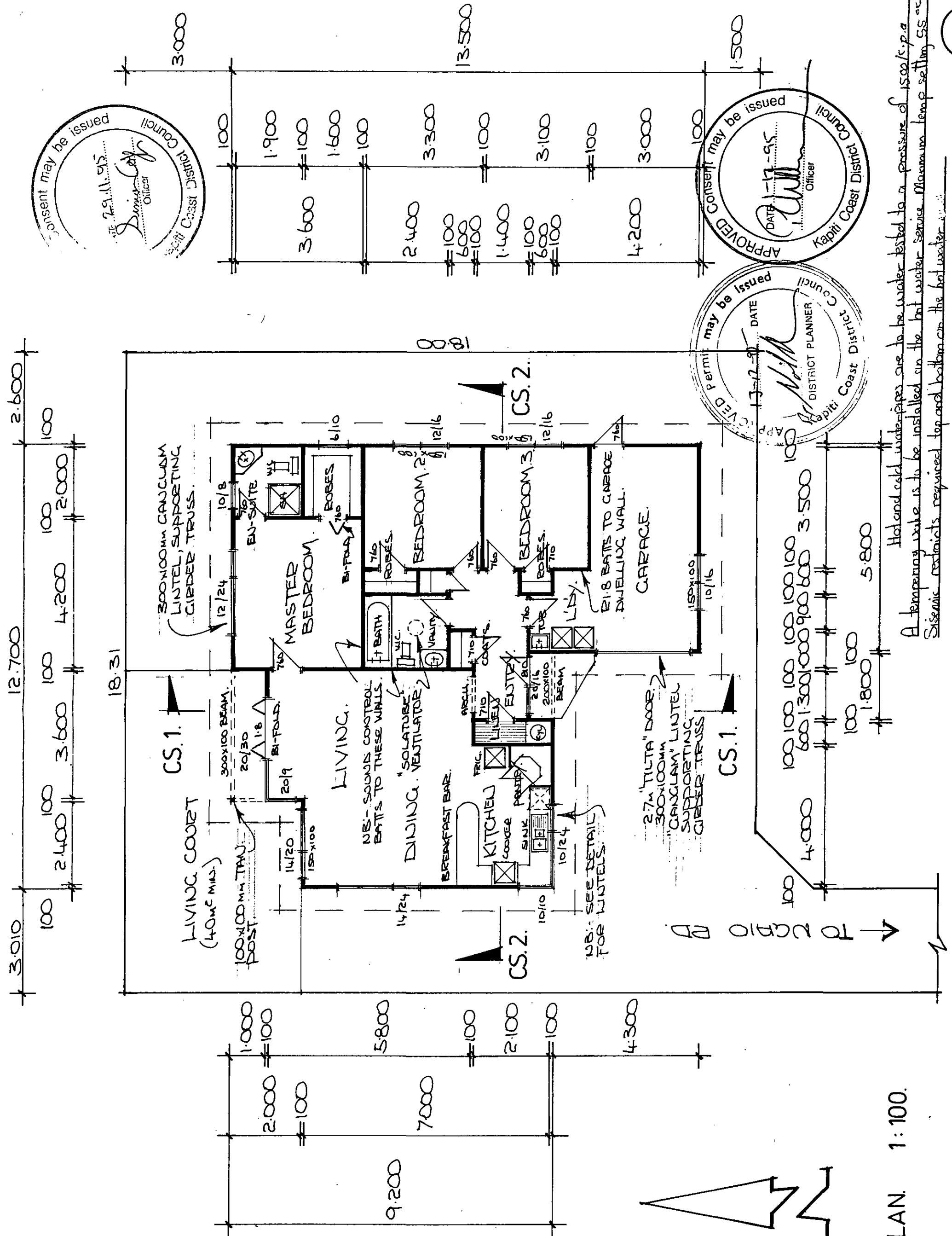
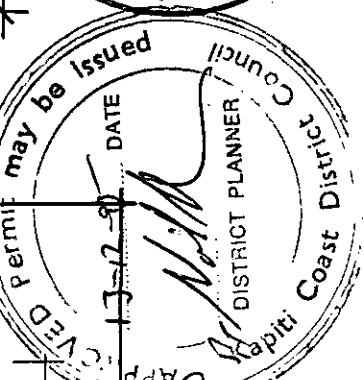
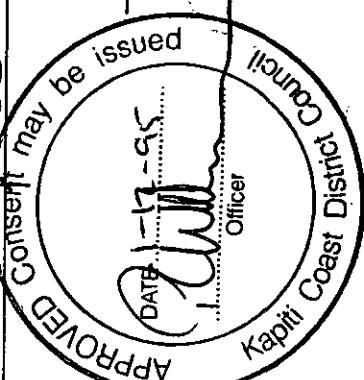
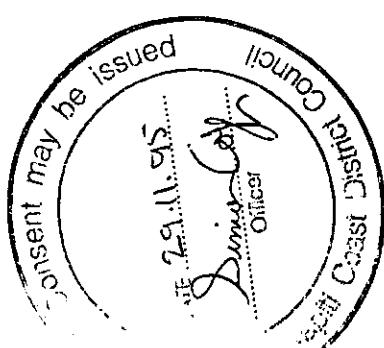


DOWNSTREAM SYSTEM CONNECTED TO DOWNSTREAM SYSTEM

SEVERE INJURY DUE TO KCB. + 2.60 +

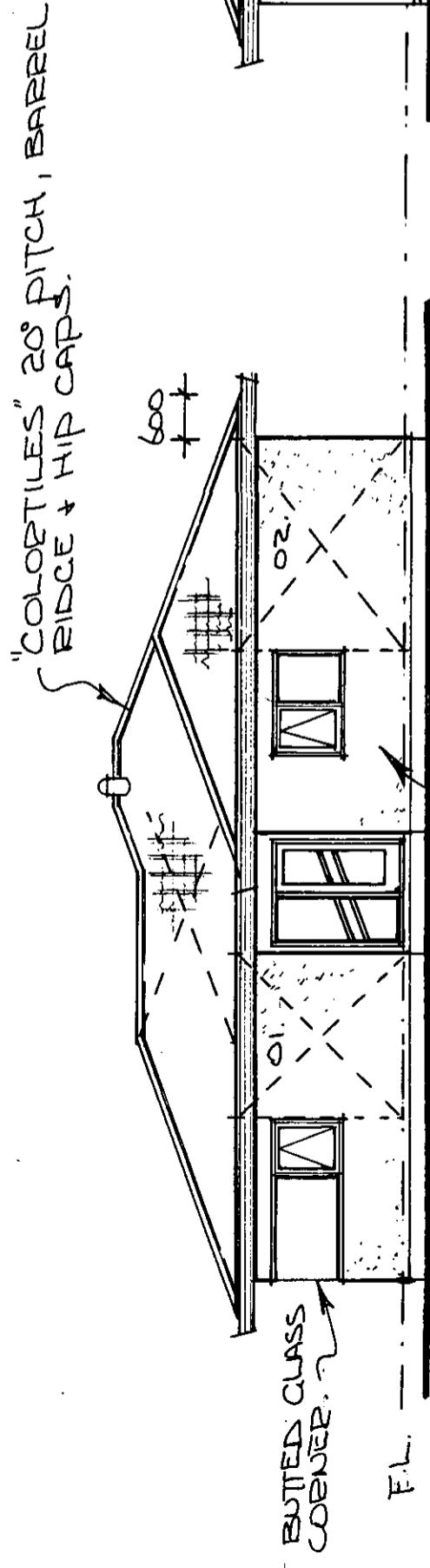
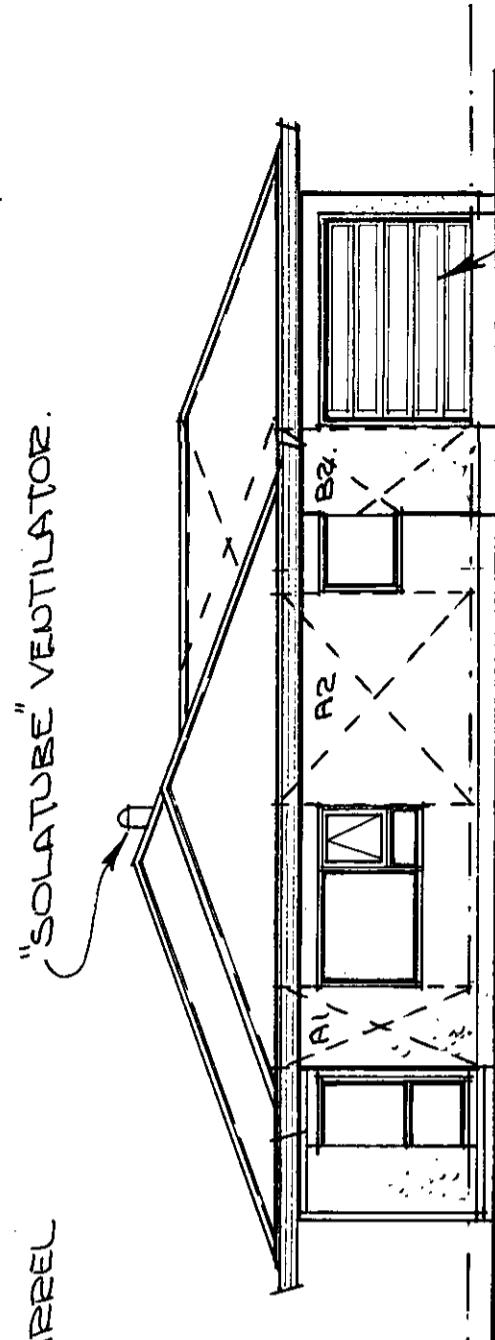
## SITE & DRAINAGE PLAN. 1:100.





FLOOR PLAN 1:100.

Hot and cold water pipes are to be water tested to a pressure of 1500 k.p.a. A temperature valve is to be installed in the hot water service. Maximum temp setting 55°. Seismic restraints required top and bottom on the hot water pipe.

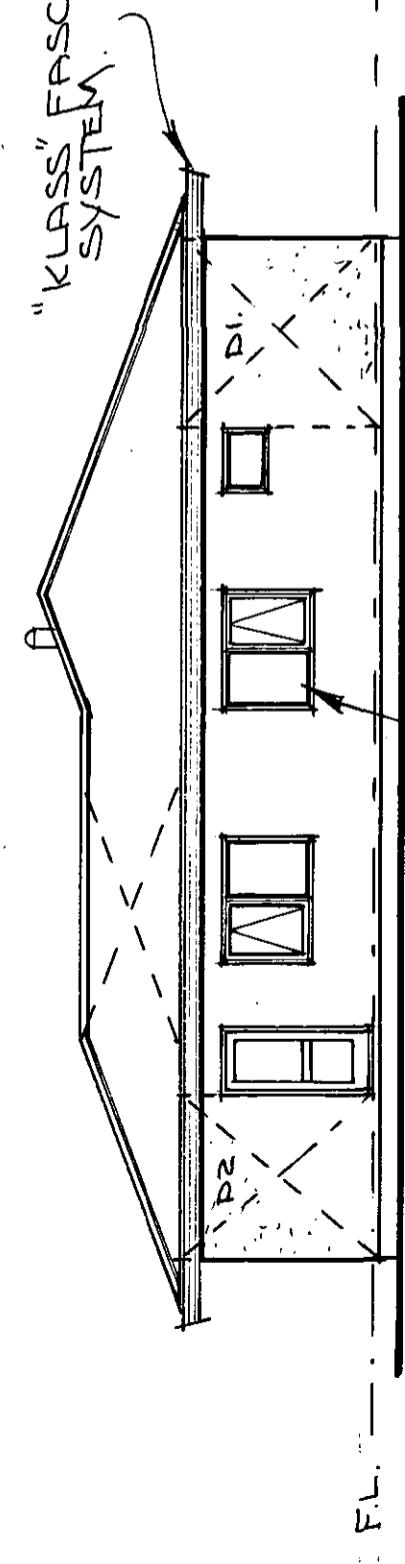
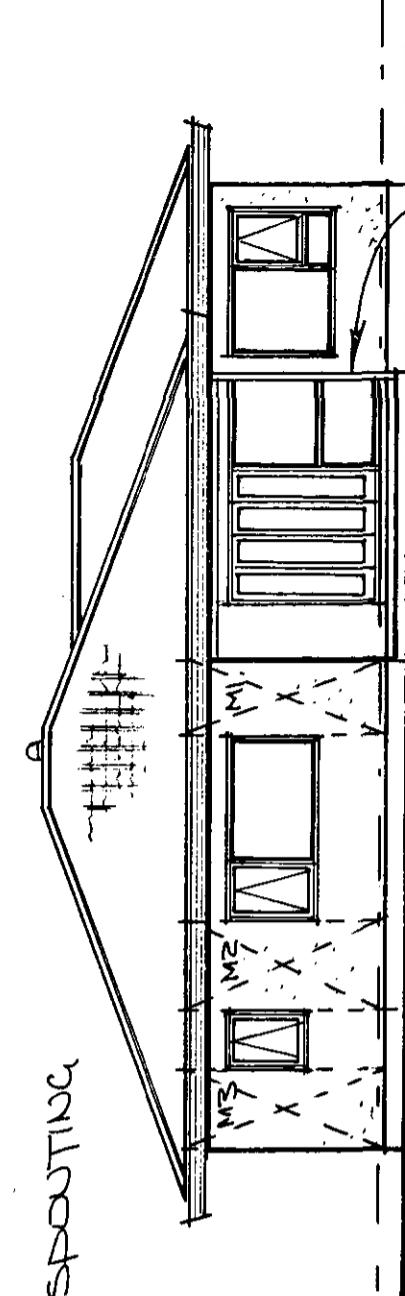


South.

West.

2.7m WIDE "TILTA" DOOR.

TEXTURED COATING ON "HAZDITEX"



East.

ALUMINUM JOINTER & HEAD FLASHINGS  
TO D2S 4211 CLAZING TO D2S 4223 inc. A-B-193  
(100 D.W.P. MM.)

100x100mm TAN. POST.

Consent may be issued

DATE 29.11.95

Officer

Kapiti Coast District Council

APPROVED

Consent may be issued

DATE 13-12-95

Officer

Kapiti Coast District Council

APPROVED

Consent may be issued

DATE 13-12-95

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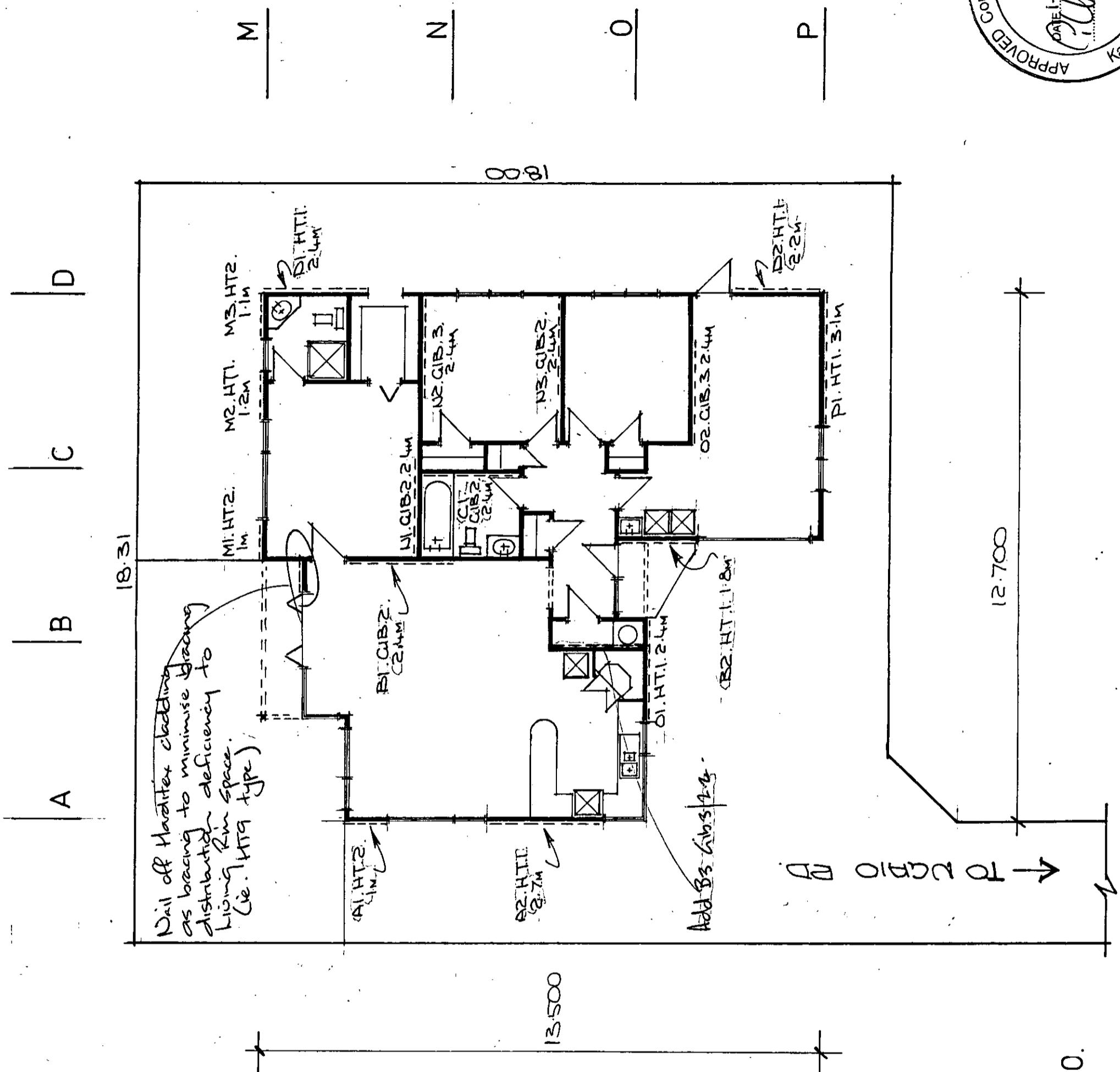
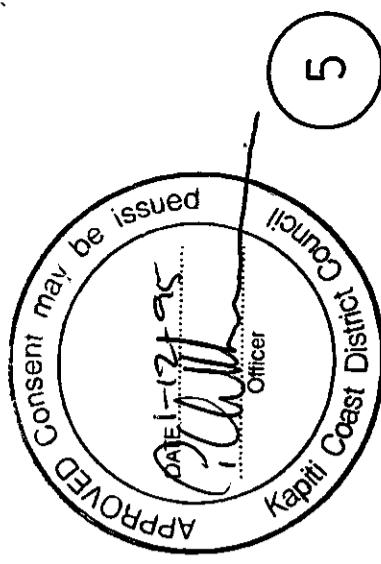
Kapiti Coast District Council

APPROVED

Consent may be issued

DATE 13-12-95

Off

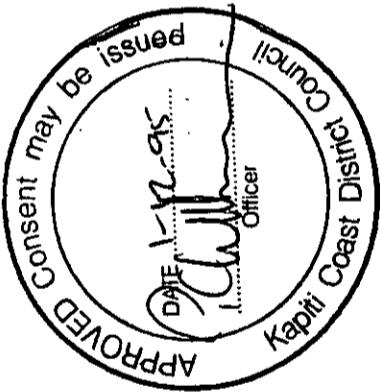


BRACING PLAN. 1 : 100.



**GIBRALTAR BOARD**  
Wall Bracing Systems

**WALLBRACING CALCULATION SHEET A**  
(For use with NZS 3604 : 1990)



Name: Mr. Roger Smith (Builder)

**1. Location of STOREY**

foundation  
(single)  
upper of two  
lower of two

low / medium  
high) very high

A / B / C

SITE WIND ZONE:  
(Table 2.4)  
EARTHQUAKE ZONE:  
(Fig. 2.2, Table 2.3)

SITE ADDRESS  
City/Town or District: WAIKANAWE  
Street and Number: 73A NGAIO RD,  
or  
LOT AND D.P. Number: \_\_\_\_\_

**SITE ADDRESS**

**2. FOR EARTHQUAKE**

Roof weight:  
Average Roof Pitch:  
Type of Cladding:  
Earthquake Zone:  
Storey in Roof space: yes  no

$$E = 2.7 \text{ BU's/m}^2$$

**ACROSS**

WALL OR BRACING LINE		BRACING ELEMENTS PROVIDED				WIND	
Line Label	Minimum BU's Required	Bracing Element No.	Bracing Type	Length Element (m)	Rating BU/m	BU's Achieved (BU/m x L)	Rating BU/m
A	72	71	HT2	1.0	6 EQ	7 EQ	6 W
B	70	72	HT1	2.7	100	100	100
C	70	C1	C1B2	2.4	70	169	80
D	135	D1	HT1	2.4	90	62	100
E		D2	HT1	2.2	60	132	65
						143	
						80	
						192	
						100	
						180	
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# TECHNICAL INFORMATION

## HARDITEX BRACING SYSTEMS



### Bracing

Harditex will provide bracing for buildings designed and constructed in accordance with NZS 3604. For details of this aspect of the product refer to BRANZ Appraisal Certificate No. 229 (1993) Hardies Wall Bracing Systems.

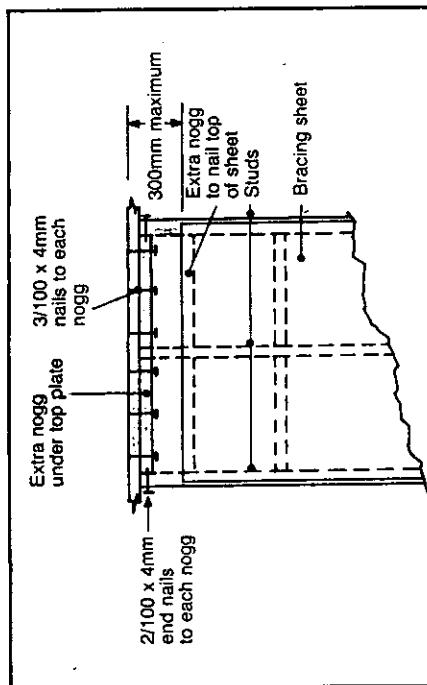
Bracing Systems shall be used as the required bracing with the appropriate fixings as set out in Table 1. Refer also to Figs. 4 to 7 for Harditex sheet bracing details. Harditex meets the wall bracing element requirements of NZS 3604. (NZS 3604 is cited in NZBC Approved Document B1/AS1 Clause 4.0).

TABLE 1 Bracing Ratings for HARDITEX 7.5mm thick					
System Number	Bracing Element Length	Figure Reference	NZS 3604:1990 Rating in Bracing units per metre of element length	Wind	Earthquake
HT1	1200mm or more	Refer Fig. 1 and 2 End straps not required	100 100 115	100 100	90
HT2 HT3	900-1200mm or more	Refer Fig. 3 and 4 End straps required (Refer Figs. 8 or 9)	100 130 130	100 120	
HT4 HT5	1200-2400mm or more	Refer Fig. 5 End straps not required			
HT6 HT7 HT8	900-1200mm 1200-2400mm 2400mm or more	Refer Fig. 6 and 7 End straps not required	100 115 120	80 80 100	

**Fixing**  
Harditex sheets must be fixed vertically with all sheet edges on framing. Sheet joints must be avoided at the corners of openings (except for control joints). Fix all Harditex sheets to the timber framing with 40 x 2.5mm hot dipped galvanised Harditex nails. Nail at 150mm centres to sheet edges and to intermediate framing and noggs. Nails are driven a minimum of 12mm from the sheet edge and 50mm from corners. The sheets must be held hard against the framing during nailing to minimise nail break out. Drive all nails flush with the Harditex sheet surface. Do not punch as this can weaken the nails holding. Fix all Harditex sheets from the centre working towards the outside to avoid drumminess. Certain bracing applications require the use of straps or fixings. These must be rebated into the framing behind the sheets. (Refer Table 1 and Figs. 8 and 9).

### Sheets Stopped Below Top Plate

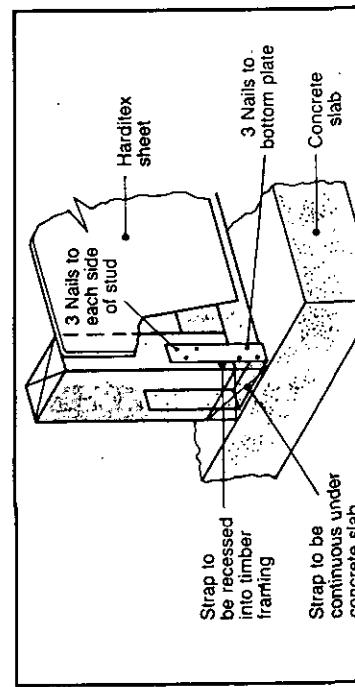
Where bracing sheets are stopped below the level of the top plate refer to Fig. 10.



**Fig. 10. Detail When Bracing Sheet Stopped Below Top Plate**

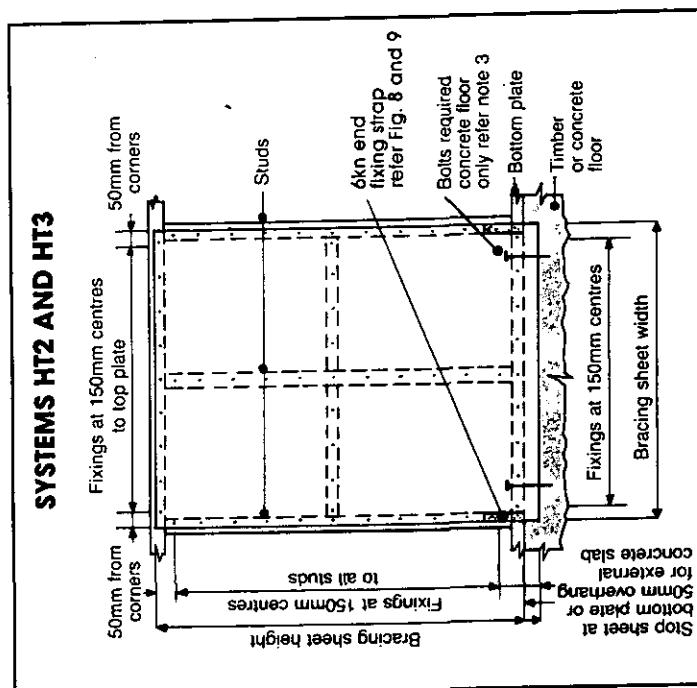
NOTE

1. All sheet nailing to be as shown for the various bracing systems.
2. The full bracing values for full height sheets for each system can be used when this detail is followed.
3. This detail is to be used instead of the detail shown in Fig. K1 NZS 3604:1990.



**Fig. 8. End Fixing Strap to Concrete Slab**

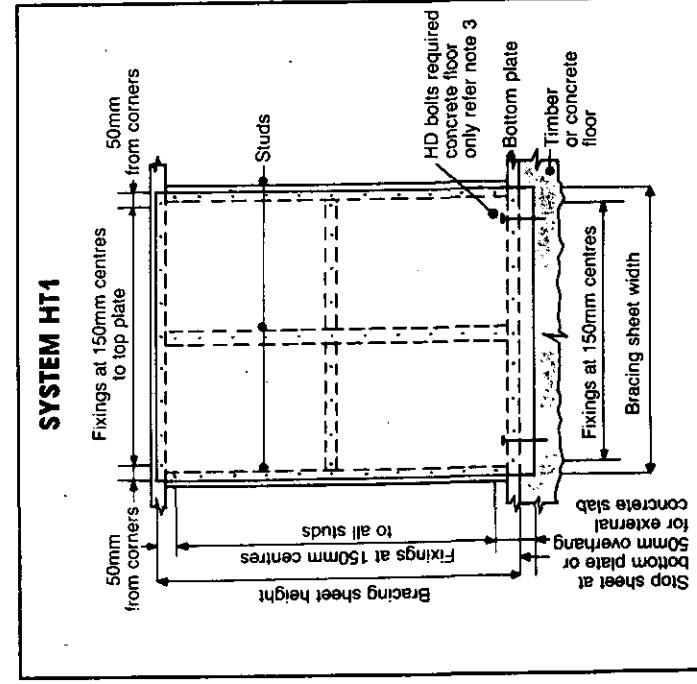
NOTE  
1. Straps to be 25mm x 1mm galvanised steel or a proprietary system of 6kn capacity.  
2. Strap nails to be 30 x 3.15mm diam galvanised.



**Fig. 4. Harditex to Timber or Concrete Floors with End Straps**

NOTE

1. Galvanised steel end fixing straps to be as detailed by Fig. 8.
2. For Harditex bracing ratings refer to Table 1.
3. HD bolts to be M10 hot dip galvanised with 50 x 50 x 3mm galvanised washers.



**Fig. 2. Harditex to Timber or Concrete Floors without End Straps**

NOTE

1. End strap fixing to studs are not required for this system.
2. For Harditex bracing ratings refer Table 1.
3. HD bolts to be M10 hot dip galvanised with 50 x 50 x 3mm galvanised washers.

MASTERED LINTEL SUPPORTING GIRDERS TRUSS

TABLE 8A

GIRDERS SPAN = 9m LINTEL SPAN 2.4m (2.52m)  
SETBACK = 4.6m (4.8m) USE 300x100mm GANGLAM

CARAGE DOOR LINTEL SUPPORTING GIRDERS TRUSS.

TABLE 8A

GIRDERS SPAN = 5.8m (6m) LINTEL SPAN 2.7m  
(2.73m) SETBACK = 3m (7.5m)  
USE 300x100mm GANGLAM.

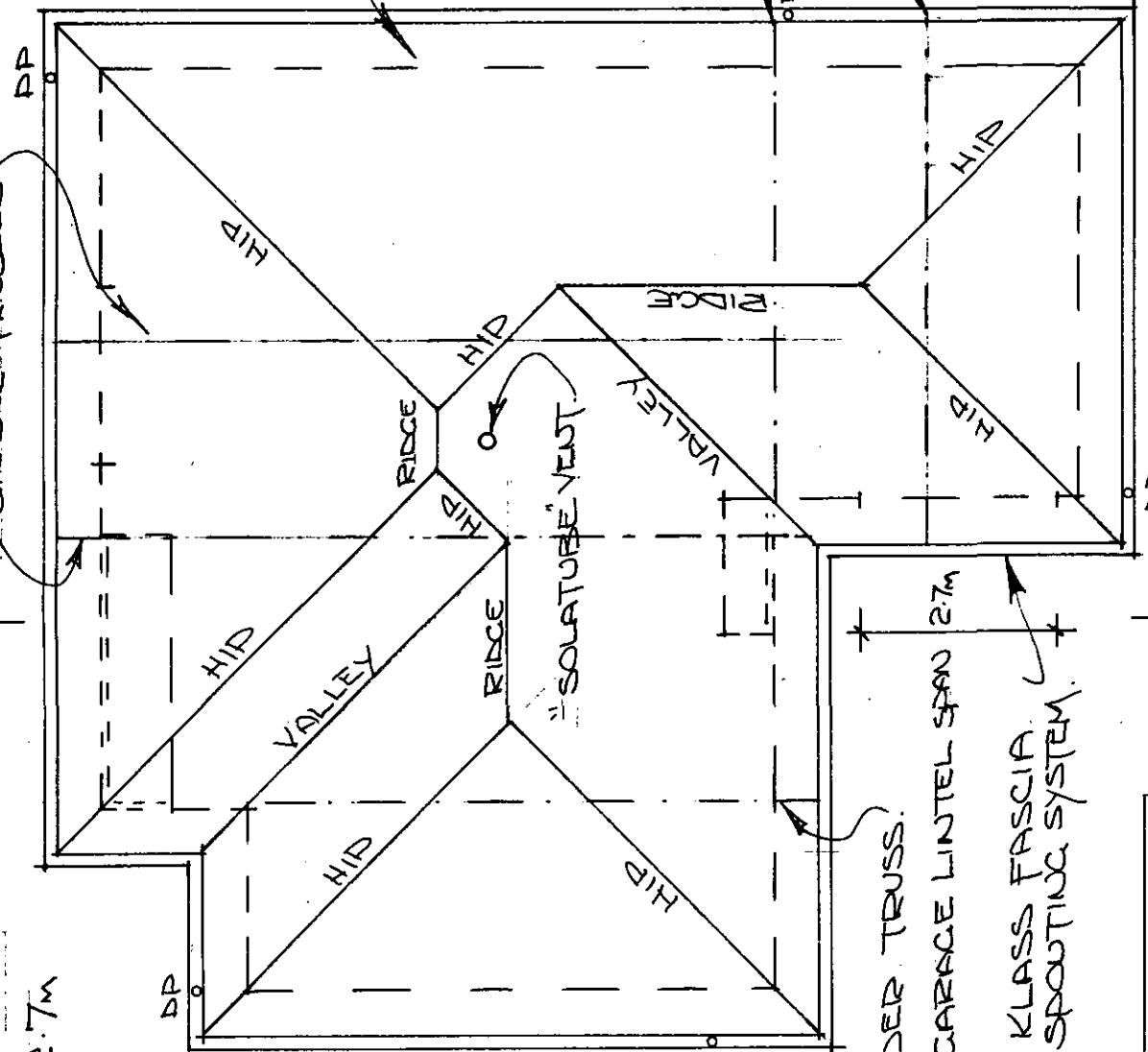
# GANGLAM

WINDOW LINTEL SPAN 2.4m  
SUPPORTING GIRDERS TRUSS  
SETBACK 4.6m

"COLORTILE" ROOF, BARREL  
RIDGE & HIP CAPS, 20° PITCH  
"GANGNAIL" TRUSSSES AT 900mm C/C  
DESIGNED & MANUFACTURED  
BY REGISTERED FABRICATOR.

CS.1.

GIRDERS TRUSSES



CS.1.

GIRDERS TRUSS.

CARAGE LINTEL SPAN 2.7m  
KLASS FASCIA  
SPANNING SYSTEM

GIRDERS TRUSS SPAN

6.000

GIRDERS TRUSS SPAN

4.600

GIRDERS TRUSS SPAN

&lt;p

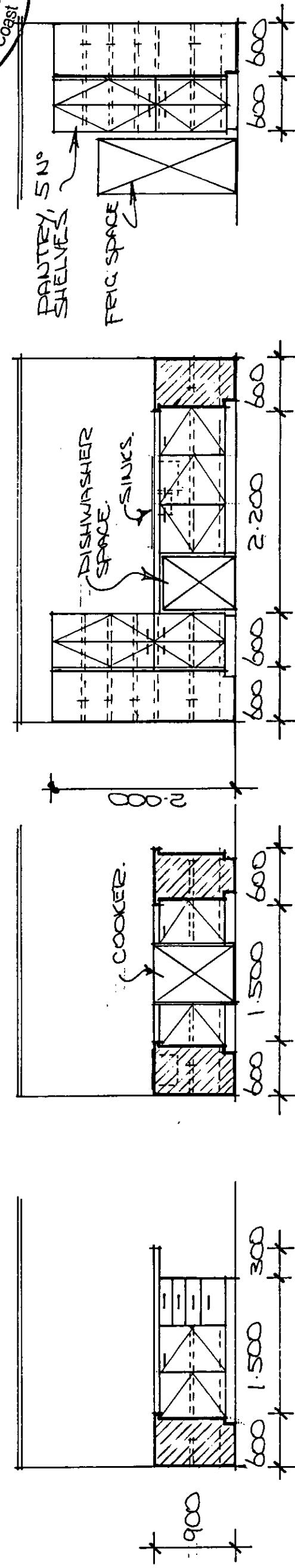
ROOF:- "COLORTILES" ON 50x40 MM BATTENS, ROOFING  
UNDERLAY, "CAUCHUALL" TRUSSES AT 900MM C/C DESIGNED  
AND MANUFACTURED BY REGISTERED FABRICATOR, 20°  
PITCH, R2.4 FIBREGLASS BATT'S & 9.5MM GIBS. DIRG. OPPOSING  
STEEL STRIP ROOF PLATE BEARING TO UZS 3604:10.5.2  
TRUSS ANCHORAGE TO UZS 3604:10.2.5.

A technical line drawing of a 'SOLATUBE' VENTILATOR. The drawing shows a cross-section of the unit, which is a rectangular frame with a curved top. Inside, there are various components including a fan and ducting. A label 'R2.4 BATT' is written on the right side of the drawing.

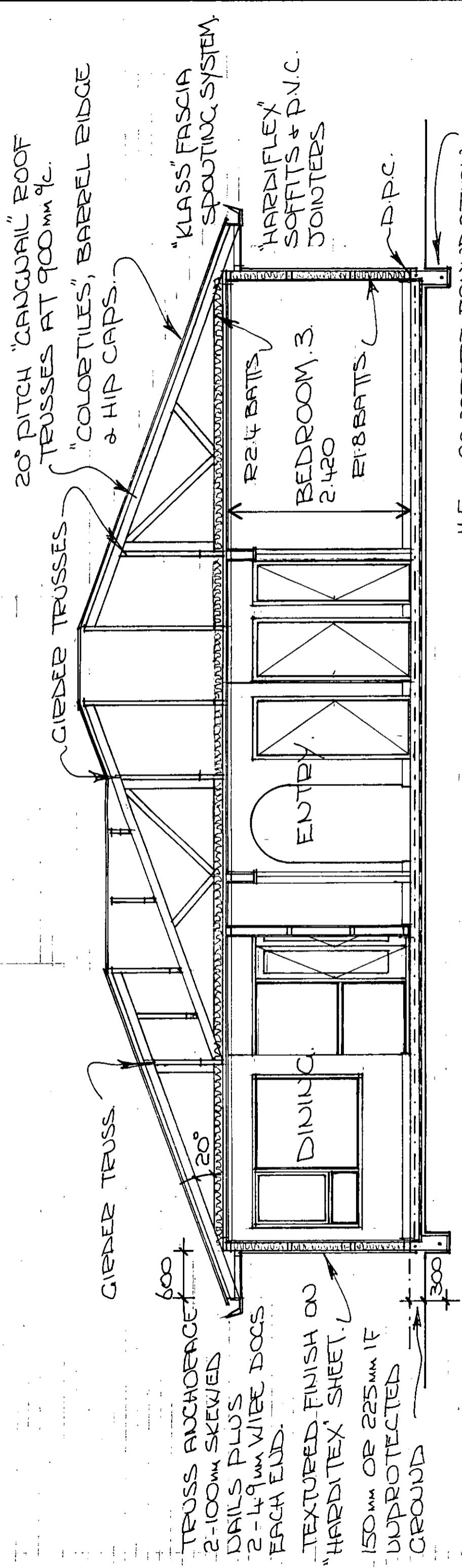
Architectural floor plan of a single-story house. The plan includes a Living room (4.420 x 2.700), a Dining room (2.700 x 1.000), a Kitchen (2.700 x 1.000), a Bed room (2.000 x 1.000), and an Entry. The exterior features a 2.7m wide 'tilta' door, a textured 'HARDITEX' coating on the walls, and a 100mm concrete slab thickness. A 300mm thick 150mm fl. paving is shown at the entrance. A 9.5mm G.I.B board is used for the roof. A 300x100mm beam is shown at the top left. A 300mm thick 100mm concrete slab thickness is also indicated at the bottom right.

15 ft  
EXTERIOR WALL:  
TEXTURED COATING ON  
HEXDITEX™ SHEET BUILDING  
FRAMING TO 12" x 3604", SECTION 6,  
PAPERED ON 100 x 50 mm U1 H1, P.C.,  
PI-S FIBREGLASS BATT, AND 9.5 mm  
CIB BOARD Lining.

A circular stamp with concentric text. The outer ring contains the text 'APPROVED' at the bottom and 'Kapiti Coast District Council' at the top. The inner ring contains the text 'Consent may be issued' at the top and 'Officer' at the bottom. In the center of the stamp is a handwritten signature and the handwritten date '17.7.95'.

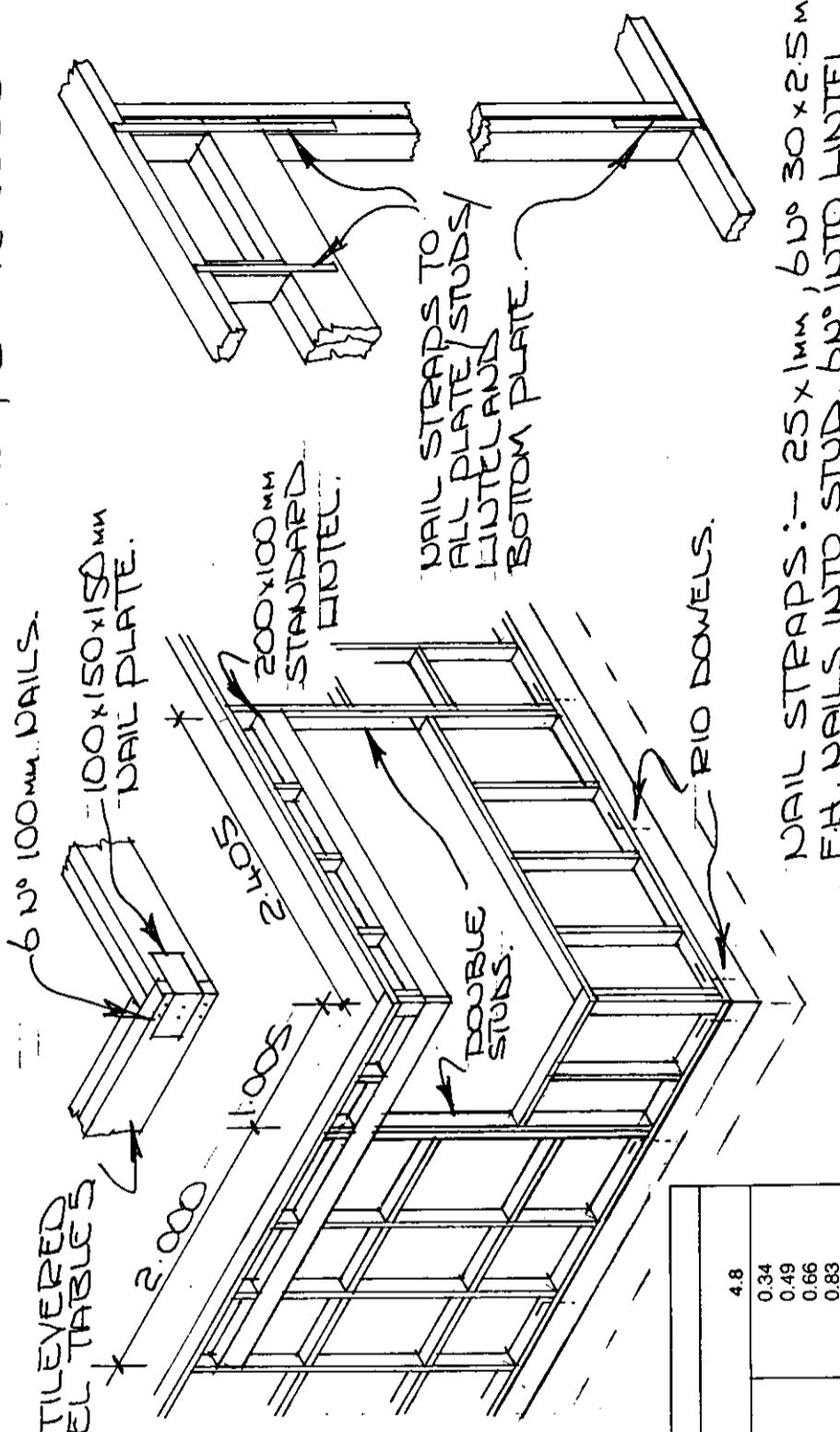


KITCHEN JOINERY. 1 : 50.



## CROSS SECTION. 2. 1 : 50.

## THE GANG



## 165m CONCRETE FOUNDATION

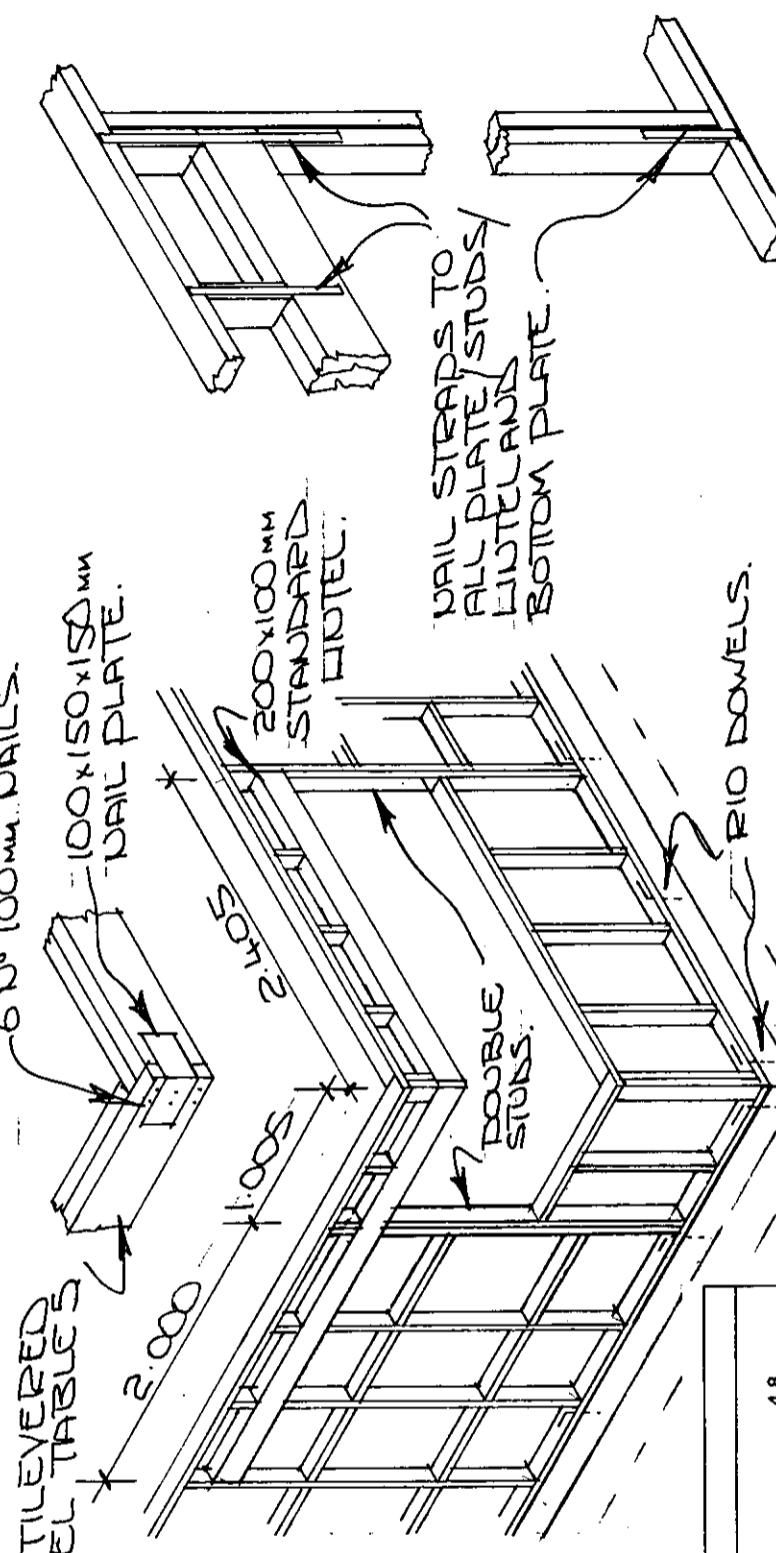
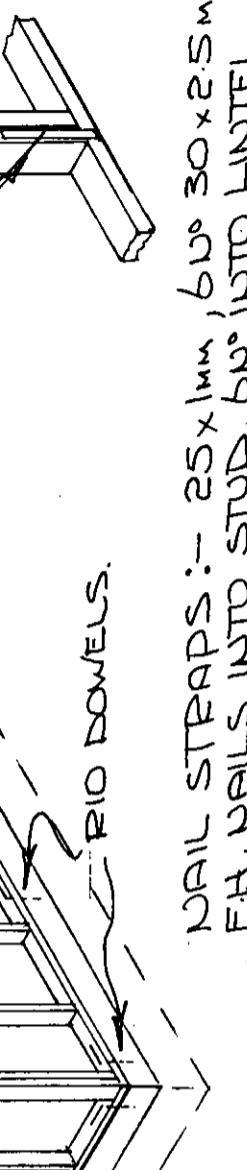
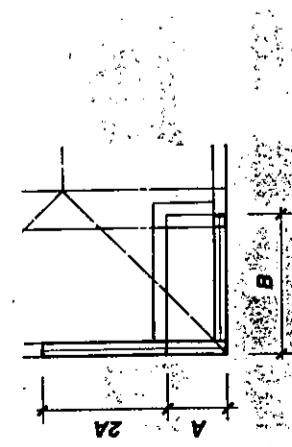
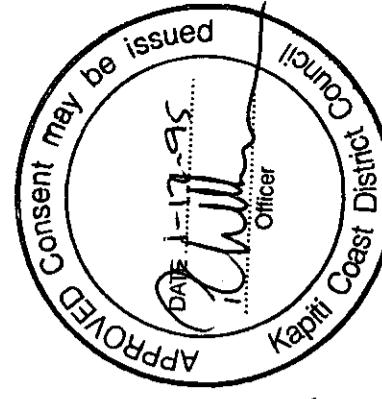


TABLE 5:  
CANTILEVERED LINTEL FOR CORNER ALCOVE UNDER HIP OR GABLE ROOF

LINTEL SIZE	MAXIMUM CANTILEVER (DIMENSION A) (m)					4.8
	2.4	3.0	3.6	4.2		
100 x 100	0.45	0.42	0.39	0.36	0.34	
125 x 100	0.65	0.60	0.56	0.52	0.49	
150 x 100	0.88	0.81	0.75	0.70	0.66	
200 x 100	1.08	1.00	0.93	0.88	0.83	
250 x 100	1.50	1.38	1.29	1.22	1.15	
300 x 100	1.74	1.61	1.74	1.64	1.55	
350 x 100	2.30	2.13	2.00	1.88	1.79	
400 x 100	2.51	2.61	2.45	2.31	2.19	
450 x 100	3.01	2.80	2.63	2.48	2.63	



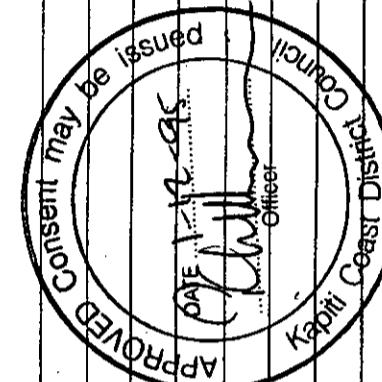
## KITCHEN CANTILEVERED INTERIOR DETAIL



ADDENDUM TO SPECIFICATION PROJECT. NEW DWELLING - 73A UCAN ROAD OWNER. MR R SMITH (B.I.D.E.)

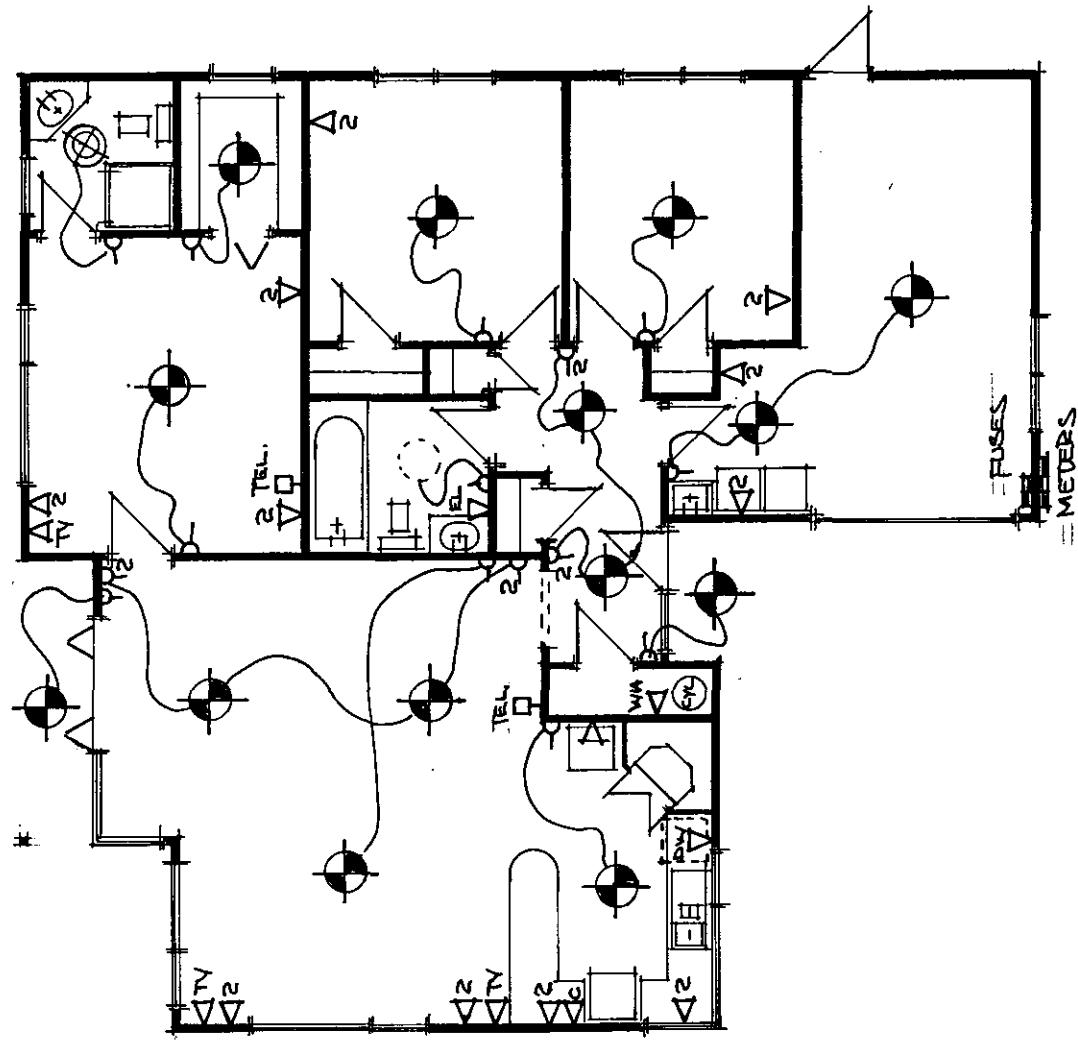
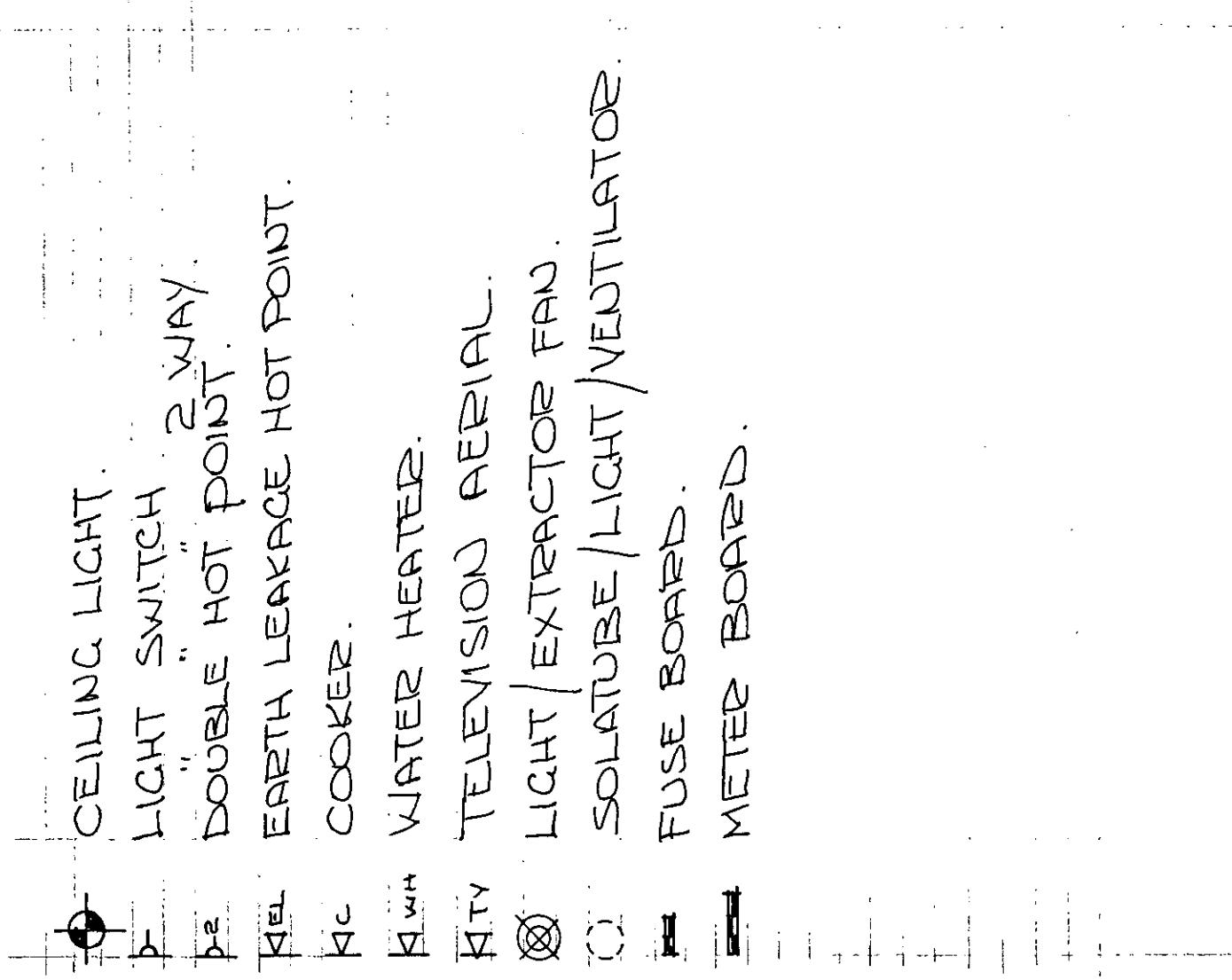
DATE. NOV. 95

FOUNDATION WALL.	165mm KILDE REINFORCED CONC.	Sink.	S/S BLANCO
FLOOR.	100mm CONC. SLABS, 665 MESH	Waste Disposal.	
EXTERNAL CLADDING.	Ground Floor. TEXTURED FINISH ON "HARDITEX" Upper Floor. Gable Ends. Dormers.	BURNS & FERGUSON S/S	
WALL FRAMING.	Ground Floor. 100x50mm NOT H1 P.C. FRAMING TO Upper Floor. N2S 3604 SECTION b	TAPS.	GREENS
JOINTERY.	ALUMINIUM JOINERY 1100pa D.W.P. min	DRAINS (SANITARY)	100mm Ø HAZELIE IPLEX
INSULATION.	JOINTERY	DISPOSAL. Sewer / Septic Tank.	K.C.D.S. SANITARY SEWER
Floor.	ALUMINIUM JOINERY 1100pa D.W.P. min	DRAINS (Stormater.)	90mm Ø HAZELIE IPLEX
Walls.	Walls. N2. FIBREGLASS CO LTD. R1.8 RATES	DISPOSAL. Sewer / Soak Pits.	K.C.D.C. S.W. SYSTEM
Ceilings.	Ceilings. " " " " R2.4 BATT'S	COOKING APPLIANCE.	FISHER & PAYKEL ELEC COOKER
INTERNAL LININGS.	Walls & Ceilings. 9.5mm GIB. BOARDS	HEATING APPLIANCE.	
	Walls Wet Areas. " " " " AQUALINE		
	Floors. VINYL SHEET		
ROOF COVERING.	Covering. "COLOR TILES"		
	System. "CANCANAIL" TRUSSES		
PLUMBING.	Cold Water Supply.	TOOWN MAINS.	
	Piping.	"BUTTERYNE"	
	Hot Water Piping.	" "	
	Hot Water Cylinder.	CHEM HIGH PRESSURE	
	C.W. Storage Tank.	N/A	
Fittings.	W.C.Pan & Cistern.	CAROMA	
	Bidet.	ENCLEFIELD	
	Bath.	ENCLEFIELD / TOPPLISS	
	Shower & Fittings.	ATHENA	
	Vanity.		



NB:- ALL MATERIALS FITTINGS AND APPLIANCES TO BE FIXED AND  
INSTALLED STRICTLY IN ACCORDANCE WITH THE MANUFACTURERS  
SPECIFICATIONS AND INSTRUCTIONS TO COMPLY WITH RELEVANT  
NEW ZEALAND STANDARDS Nzs 3604 AND THE  
NEW ZEALAND BUILDING CODE

## Electrical Key.



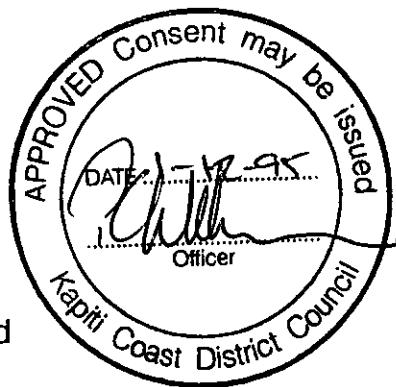
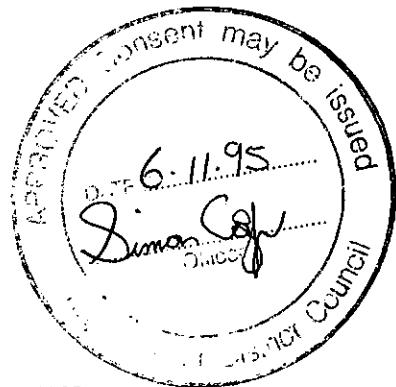
ELECTRICAL PLAN. 1 : 100

73A. Ngao Rd.

ADDENDUM OF MATERIALS

TO COMPLY WITH NATIONAL BUILDING CODE

Floor Type	Concrete
Ext. Cladding	Hardies
Roofing	Decrabond Tiles
Windows	Aluminium (Rylock)
Int. Lining Walls	Gib Board
Ceilings	Gib Board
Hot Water pipe	Acorn - SDP
Hot Water Cylinder	Rheem 180 litre mains pressure
Bath	Clearlite bath
Vanity	Clearlite bowl on formica top
Showers	Showerpac (Henry Brooks)
WC and Cistern	Caroma dual flush uniset
Shower Mixers	Greenstyle with slide
Waste Pipes	PVC
Sink Faucet	Greenstyle - 500 Starmix
Bathroom Taps	Greenstyle single lever - Milford
Laundry Tub	Stainless steel & cabinet
Tub Taps	Greenstyle
Hose Taps	Brass
Cold Water Pipe	Acorn SDP
Drain Pipe Sewer	Marley
Drain Fittings Sewer	Marley
Spouting	Marley - white in Klass fascia or similar
Down Pipes	Marley - white
Soil Pipe & Fittings	Marley
Insulation	R 2.4 ceiling batts & R.1.8 to walls



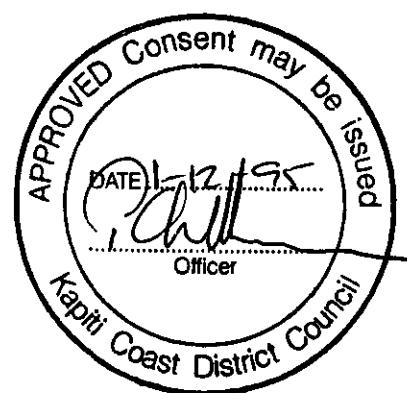
# GENERAL SPECIFICATION

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Joiner & Glazier (including aluminum windows)	17 - 18
Plumber & Drainlayer	19 - 20
Painter & Decorator	21 - 22
Roof coverings	23 - 25
Electrical	26
Spray texture finish	27
Bricklayer	28 - 29

PLANS AND DOCUMENTS PREPARED BY:

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## 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 drawn.

### 1.02 CONTRACT DOCUMENTS

The following documents form this contract:-

- (1) Builders tender and Building agreements
- (2) This specification and addendum sheet
- (3) 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 materials 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 SPECIFICATIONS

This specification is to be read in conjunction with the plans, working drawing s and any other detail 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 BYLAWS AND PERMITS

The whole of the work shall be carried out in accordance with and shall conform to the Bylaws and Regulations of the Local Authority and the requirements of the owners mortgagor.

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 Right of Way

The contractor shall pay necessary deposits or fees for sealing, vehicle crossings, 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) Workers Compensation Insurance as stipulated by the Act.
- (b) Contractors "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.

**1.07 MAINTENANCE**

Where required by the Agreement between the owner and the contractor the contractor shall undertake to remedy any defects 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. These 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 percent of such variation.

**1.10 TEMPORARY SERVICES**

The contractors 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 owners responsibility.

**1.12 COMPLETION**

The contractor or his employees shall remove all rubbish and equipment accumulated during construction, remove all temporary work and leave all services in good order, rake out all rubbish, 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 used are of equal or better quality than the item being replaced.

**1.14 SCAFFOLDING**

The owner is required to provide the necessary scaffolding, lifting equipment and protective measures required by the contractors, to the satisfaction of the Scaffolding Inspector and in accordance with the Construction Act 1959 and its amendments.

**1.15 SPECIALIST PRODUCTS**

The insertion of the name of any firm or proprietary article in this specification is to be read merely as an indication of the class or quality required, such goods may be obtained from any other firm subject to the approval of the Architect.

## EXCAVATIONS

### 2.01 PRELIMINARY

The whole of the works shall be carried out in accordance with and shall conform to the Bylaws 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 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 the lending authority. Excavate for all foundations shown on plan to a solid bearing at a minimum depth of 300mm below adjacent 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 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 prior to placing any concrete or filling.

## CONCRETE WORK

### 3.01 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

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 and shall be carefully handled and stored away from moisture until used.

Concrete shall be ordinary grade concrete with a minimum specified crushing strength of 17.5mPa after 28 days curing except where a higher grade of concrete is required.

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 20mm. Alternatively, properly graded and mixed clean, sharp "all in" aggregate may be used mixed in a ratio of 4.5 parts aggregate to 1 part fresh Portland cement. Care must be taken to ensure that measures of the aggregate and cement are the same volume. Each cubic metre of concrete shall contain not less than 8 bags of cement. Ingredients shall be mixed in a power driven mixer for not less than 1.5 minutes after all the ingredients have been added.

### 3.04 REINFORCING

Reinforce foundations walls, footings and beams as required. All main reinforcing bars shall be deformed bars continuous around corners and through steps in footing and walls. Tie bars between main bars may be plain round bars. Reinforcing shall be neatly and accurately bent and placed as required. Tie all laps and crossing with 16 gauge black iron wire. Generally, reinforcing in foundations and walls shall be placed in the centre unless otherwise required.

Provide 75mm bottom and side cover to all steel below ground level and 50mm minimum elsewhere except otherwise required. Place concrete or plastic spacers to hold steel in position and to maintain correct 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 1/D12 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 nonstaining boarding so constructed that it can be easily removed without damaging the concrete. It 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 wet concrete. Form all openings in formwork for vents conduits or ducts.

**3.06 FOUNDATIONS**

Foundation footings, walls and reinforcing shall be as shown on the drawings. All footings shall be laid on a clear, level bed, (see also -Excavations).

While concrete is still green, place all bolts for holdings 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 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 CONCRETE SLABS**

Where shown on the drawings, cast concrete slabs the porches and floors. Slabs shall be a minimum of 100mm thick and shall be reinforced with H.R.C. 668 mesh placed 35mm max. from the top of the 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 approved damp course 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 initials set has occurred, finish surface of slab with a steel float, taking care not to pull the aggregate 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 +4mm 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.

**3.08 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.

**3.09 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 a 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.

### 3.10 CONCRETE BLOCKWORK

#### 3.10.1 REFERENCE

This portion of the specification relates to materials, methods and finishes required for all the concrete blockwork to be carried out by the contractor.

#### 3.10.2 GENERAL

Use workmanship complying with NZS421OP (1981)

Use only expert blocklayers specialising in the laying of concrete blocks.

#### 3.10.3 BLOCKS

Use Class A quality concrete blocks free from staining and defects. Use Onoda NN blocks for exterior surfaces.

#### 3.10.4 BLOCKLAYING

Lay all blockwork in accordance with NZS 410P (1981)

Lay blocks true and level as detailed throughout in stretcher bond.

Check that starter rods are firmly fixed and correctly located in boxing prior to concrete being poured.

Form clean outs at positions least objectionable to wall finish. Clean outs shall be saw cut in blocks and not less than 90mm high x 100mm wide.

Obtain owner's approval for method sealing clean outs before grouting.

Hose down cavity at least twice daily or whenever work is interrupted for 30 minutes or longer. Ensure cavity is completely free of all debris prior to filling.

Strike off mortar squeezed from joints as work proceeds. Add mortar where required to ensure completely filled joints. Tool joints so that the intersection of horizontal and vertical joints are even without projecting lips. Compress mortar in all joints and finish with a concave joint surface.

Fully brace and support blockwork walls during the pouring and setting of concrete.

Lay all blockwork to give a fairface finish to all exterior and exposed interior surfaces unless otherwise detailed.

### 3.10.5 TOLERANCES

Erect blockwork to the following tolerances:

Plumbness of lines, surface joints of faces:

In 3m maximum: +/- 5mm maximum  
In any one storey or 6m maximum: +/- 10mm maximum  
In 13m or more: +/- 20mm maximum

Levels of blockwork courses, lintels and bond beams:

In 6mm maximum: +/- 5mm maximum  
Overall variation: +/- 10mm maximum

### 3.10.6 REINFORCING STEEL

Use grade 275 plain or deformed reinforcing steel to sizes detailed.

Ensure correct steel placing during grout pouring.

### 3.10.7 MORTAR

Use mortar complying with NZS 421OP (1981) Section 3.

Add Onoda NN waterproofing administered in proportion of 6% by weight of cement to mortar in lieu of lime. Pre-mix Onoda in half the quantity of mixing water. Mix mortar for eight minutes. Use mortar with 5.52 MPa strength after 7 days, 12.41 MPa after 28 days and a slump of 75mm +/- 6mm.

### 3.10.8 GROUT

Use grout complying with NZS 421OP (1981) Section 4.

Use site mixed grout with a spread of 450 to 530mm range. Test grout for spread every sixth batch.

### 3.10.9 GROUT PLACING

Place grout in accordance with NZS 421OP (1981) Section 13.

Place grout by the high lift continuous consolidation method in accordance with NZS 421OP (1981) Section 14.

Consolidate all grout with a pencil vibrator of 6000 to 12000 full cycle per minute frequency. Insert and withdraw vibrator slowly. Provide two vibrators on site at all times during grout placing in case of vibrator failure.

### 3.10.10 CEMENT PLASTER

Allow for hardwall plaster surfaces as shown on the plan to the following areas:

- a) Horizontal verandah surfaces between the quarry tiles.
- b ) Vertical verandah edge
- c ) Chimney

## CARPENTRY

### 4.01 PRELIMINARY

The whole of the works shall be carried out in accordance with and shall conform to the Bylaws 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.

### 4.02 EXTENT OF WORK

Comprises the supply and fixing of all timberwork, lining, sheathing, fittings, finishings and hardware specified or otherwise required 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.

### 4.03 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 NZS 169 and shall be 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 variations in sizing. Exposed exterior and interior finishing are to be machine dressed to a constant thickness and width.

### 4.04 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.

### 4.05 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 prior to fixing.

### 4.06 DAMP ROOF COURSE

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

### 4.07 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 of wall plates supporting the ground floor joists. Replace or adequately repair immediately before fixing exterior sheathing if punched or torn.

## 4.08 TIMBER GRADES

The builder shall allow for all timbers as specified below:

Sub floor framing -B A Ht Rimu or H3 treated pinus radiata

General framing - Boric treated No 1 framing graded Pinus Radiata or BA Rimu

Exposed beams, rafters, joists and trusses - Clean Douglas Fir or Oregon or as detailed on plans

Interior finish - Heart BA Rimu or finger jointed Pinus where painted

## 4.09 FLOOR JOISTS

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

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

Provide double joists under all load-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 100x50mm blocking between parallel joists at each end of the wall, at each side of door openings and at not more than 1.2mm centres.

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

Provide full depth blocking or herring bone strutting at the mid span of all joists exceeding 2.4mm 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 required.

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

## 4.10 WALL FRAMING

Frame up for walls and partitions as required. Studs shall be cut square at ends or true to angles of gable or sloped frames. All studs shall be continuous for their 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 100x50mm or 75x50mm No 1 framing grade H1 treated pinus radiata.

Top and bottom plates shall be sizes complying with tables 18 and 19 of NZS 3604 and as required. Studs shall be of sizes and at the centres shown on the drawings and as required by tables 12, 14 and 15 of NZS 3604. Provide two rows of dwangs in the height of each wall to provide stiffness to framing and support for linings.

#### 4.11 LINTELS

Lintels shall be of sizes shown on the drawings and complying with table 16 of NZS 3604 (see appendix A).

Lintels shall be supported at ends by checking trimmer studs not less than 15mm not more than 20mm for 100mm deep lintels. Lintels not exceeding 200mm deep shall be supported by 50mm thick doubling studs. Lintels not exceeding 300mm deep shall be supported by 75mm thick doubling studs. Lintels shall be fixed to trimmer studs and trimmer studs to floor joists at the bottom with 25mm galv. straps or other similar fixings as required by NZS 3604. Refer also to drawings and / or fig. 41 NZS 3604.

All nailing of treated framing shall be as shown in the nailing schedule NZS 3604 table 30.

#### 4.12 BRACING

All bracing elements shall be located strictly in the positions required.

Metal bracing shall be 22x22x1.2mm galv. steel angle or pairs of 22x22x1.2mm galv. strap braces fixed to top and bottom plates and studs as shown in the nailing schedule. Each length of strap bracing shall be fitted with purpose made tensioners and properly adjusted.

Where angle braces are used, they shall be set in straight lines and saw cuts in framing shall be only 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.

Bracing shown on the drawings is required to satisfy the requirements of NZS 3604. The contractor may provide additional bracing to hold frames square and true during erection.

The plan lengths of bracing elements shall not be less than that shown on the drawings or in the bracing schedule.

Cladding or linings forming part of the bracing element shall be fixed to the framing ALL ROUND with fixings at centres set out in the nailing schedule.

Generally types 1 and 3 bracing elements require the lining to be fully fixed on one face of the framing only while types 2 and 4 require complete fixing of the lining on both faces of the framing over the area of the wall containing 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 schedule sheet bracing elements shall be connected to bottom plates and joists or boundary joists as shown in fig. 47 of NZS 3604.

Bottom plates shall be held down to slabfloors with 12mm dia. bolts or proprietary fixing not more than 150mm from the bottom corners of sheet bracing elements with galv. straps or similar fixings of 6kN capacity between bottom plates and end studs of sheet bracing elements all as shown in fig. 47 NZS 3604.

Internal walls containing bracing elements shall be connected to exterior walls at right angles at top plate level either directly or by a framing member in the line of the wall. Connections shall be made using nail plates or 25x1mm steel straps with 6/30x2.5f.h nails into each member. Top plates in walls containing bracing elements shall be butted together and jointed with metal connections as above. See addendum and drawing for nail plate sizes and number of steel plates required at each connection. See also clause 6.73. and fig. of NZS 3604.

#### 4.13 POSTS AND BEAMS

Where required erect posts and beams of timber treated to TPA C7 specification. Except where otherwise required posts shall be anchored to concrete base pads with 50x6mm galvanized Steel fish-tailed straps 450mm long set 225mm min into concrete each side of posts. Fix posts to plates with 2/12mm dia. galv. bolts. Connect posts to beams with 50x6x400mm long galv. steel plates each side and 2/12mm dia. galv. bolts through plates into each member. All concrete pads, anchorages, joints and fixings shall comply with the requirements expressed or implied by clause 7 of NZS 3604.

#### 4.14 ROOF AND CEILING FRAMING

Frames up for roof as required. Where roof trusses are used, they shall be constructed in a properly equipped factory using nail plates at all joints.

#### 4.15 TRUSSES

Unless otherwise approved by the local authority engineer roof trusses shall be constructed in a properly equipped factory using nail plates at all joints and shall be constructed to standard designs of the nail plate manufacturer or to designs prepared by a registered engineer. All trusses shall be certified by the fabricator as being constructed to the standards required by the designer and each truss shall be labelled in accordance with the requirements of NZS 3604, cl. 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 designer and the fee for the work is to be allowed for in the tender.

Trusses shall be carefully handled and stacked on 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 100x3.75 nails plus additional fixing to top plate and wall studs consisting of 4mm dia. wire dogs, 4mm dia. galv. wire ties wrapped over top chord and stapled to studs with min. 3/30x2.5mm galv. staples, or by other connectors to comply with NZS 3604, cl. 10.2.5.

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

Provide 75x50 blocking between bottom chord, or ceiling battens as shown on the drawings.

#### 4.16 PURLINS AND TILING BATTENS

Securely fix purlins and/or tiling battens as required. 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.

Tiling battens shall be of the sizes required and at centres to suit tiles. Tiling battens shall be supplied and fixed by the roofing sub-contractor. The main contractor shall provide temporary members required to hold roof framing in position until tiling battens are fixed.

#### 4.17 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 25x1.2mm galv. steel strap bracing with 1 tensioner for each 3.6m of brace (or part thereof) fixed to each truss or rafter at crossing point and to the top plate of external walls as required in the nailing schedule. Bracing may be fixed to either the top or under-side of the rafters.

Where required fit roof space bracing complying with clause 10.5.3 of NZS 3604.

Braces shall consist of a single member or otherwise be pairs of 100x50 members spaced 50mm apart and nailed together through blocking pieces not more than 1m apart for effective lengths up to 5.2m max. Braces shall be fixed to blocking between rafters or ridge at the top and a 100x50 brace runner at the bottom connected to ceiling framing. Bracing and blocking shall be fixed as set out in the nailing schedule.

Hip end jack rafters or rafters in 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 100x50mm timber 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.

#### 4.18 DWANGS AND BATTENS

Provide dwangs around the perimeter of all ceilings areas and between ceiling joists or truss bottom chords at 900mm centres. Dwangs shall be 75x50mm fixed on edge. Where battens for ceiling linings are required they shall be of the sizes and at the centres shown on the drawings or as required by table 29 of NZS 3604.

Trim for ceiling access manhole where required. The access hole shall be not less than 500x600mm and shall be trimmed with framing of the same size as the ceiling members.

#### 4.19 EXTERIOR CLADDING

Exterior cladding shall be as shown on the drawings and/or set out in the addendum. All materials shall be fixed according to the manufacturers instructions and details according to the best accepted trade practices. All linings shall be fixed over breather-type building paper. All fixing nails shall be galvanized or other non-corrodible metal as noted in the addenda.

#### 4.20 SOFFITS

Where required line soffits with 4.75mm Hardiflex. Lining shall fit close to wall framing. Joints in sheets shall be set into extruded PVC mouldings. Fix with galvanised shear-point nails.

#### 4.21 FLOORING

Lay high density, temporary water proofed, flooring grade particle board or t & g flooring as required. Joints in sheet flooring shall be made over supports. Where necessary provide 75x50mm dwangs between joists to provide this. 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.

#### 4.22 INTERIOR LININGS

All interior linings shall be fixed strictly according to the manufacturers recommendations. See schedule of linings for materials to be used. All lining material shall be carefully stacked and handled on site to prevent damage.

#### 4.23 GIBRALTAR BOARD

Where required line walls with standard 9.5mm gibraltar board or 9.5mm gibfoil.

Sheets may be fixed horizontally or vertically according to details provided by the manufacturer except that where the lining forms part of a wall bracing element or ceiling diaphragm nailing shall comply with the nailing schedule and each sheet shall be fixed on ALL EDGES. Linings to

exterior walls and ceiling, shall preferably be Gibfoil. Standard polythene vapour barrier. Where Gibralter Board forms part of a wall bracing element or a ceiling diaphragms, thay 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 3mm min. gaps between sheets at joints. Where wallpaper is to be applied stop joints and nails with 4F stopping plaster or gibstopping compound feathered out approximately 100mm on each side of the joint and trowelled to a smooth, even surface. Where walls are to be painted joints and corners shall be finished using gib-bedding 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 expand metal strips at external corners of linings before stopping.

#### 4.24 PRE-FINISHED WALLBOARD

Where required line walls and ceiling, with pre-finished wallboard. Linings shall be fixed to framings with wall board adhesive systems appropriate to the type of lining. All joints shall be set in extruded PVC mouldings.

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

#### 4.25 INTERIOR FINISHING TIMBERS

Provide and fix all skirtings, architraves, scotias, sill boards and others mouldings and beadings required to complete the works.

Where finishing timbers are specified to be clear finished they shall be heart rimu unless otherwise specified. Elsewhere they may be finger jointed pinus radiata, MDF or other approved.

Sill boards where required shall be out of 100x25mm timber neatly fitted to jambs and bullions.

Skirtings shall generally be out of 100x25mm timber, bullnosed with grooved back. Mitre corners and glue joint when fixing.

Architraves where required shall be out of 50x25mm timber bullnosed with grooved back. Mitre corners and glue joint when fixing.

Drill holes for fixings at ends of all finishings 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 surface satisfactory and acceptable for the proposed method of finishing.

#### 4.26 SWITCHBOARD

Trim opening for switchboard in required location and form box to carry switch-board with provision for the board to be hinged for access to wiring at the rear. Line the inner faces of the switch-board box with firestop gib. board or 2 layers of 9.5mm gib. board. Fit door catch to face of switch-board.

**4.27      HARDWARE**

The contractor shall allow in his tender the PC sum shown in the addendum for hardware. Allow for taking delivery of and fixing of all items supplied from the PC sums ( see P & G ). Items to be charged against PC sums shall include door latches, locks and furniture; cupboard catches and pulls; sliding door tracks and fittings; towel rail, and other similar items; but shall not include nails, bolts, screws, hinges or similar miscellaneous connecting devices or fixings.

**4.28      FLASHINGS**

Ensure the delivery of machine folded flashings for exterior doors and windows (0.6mm aluminum.) and install above and around as detailed or otherwise required.

## JOINER AND GLAZIER INCLUDING ALUMINIUM WINDOWS

5.01 Refer to Preliminary and General which covers all parts of the work.

### 5.02 **SCOPE**

Cupboards shelves and benches as shown. Interior and exterior doors and windows as shown and required.

### 5.03 **FINISH**

All Joinery work shall be machine sanded and finished by hand. Smooth all surfaces and paper off all arises. Leave ready to receive paint, or varnish as shown.

### 5.04 **GLAZING**

All glazing to NZS 4223:1985. All glazing clear except where specified on window schedule. To NZS 4223:1985

### 5.05 **MIRRORS**

High quality silver backing, exposed edges rounded and polished, glue pad fix to suitable substrate, vinyl backed for safety.

### 5.06 **MATERIALS**

All timber shall be of the grade specified, thoroughly seasoned, cut square and of the full dimensions necessary to the New Zealand National Grading Rules NZS 169. Where required, all timbers shall be treated in accordance with the requirements of the Timber Preservation Authority.

Moisture content of timber shall be 12% to 18% based on oven dry weight. These percentages shall apply at the time of machining and at the time of installation. All timber must be straight, sound, free from checks, splits and other defects.

For vanity, hinges and steel drawer sliders to be brass.

### 5.07 **WORKMANSHIP**

All joinery shall be made in accordance with the best trade practice of sound repute in suitable workshops by competent tradespeople using tools, machines and equipment appropriate for the job following the details, drawings and instructions to the approval of the Architect, to whom access to the site, all workshops and facilities shall be granted during normal working hours.

The assembling of doors, sashes, frames, fittings and the like shall be by means of those joints appropriate to the nature of the job.

Mortice and Tenon, housing, dowelling and the like shall be used wherever required. Joints shall be accurately cut and fitted and well glued to develop full strength (see clause 27 of the NZS 46K0).

Screws shall be used in preference to nails or brads and counter sunk holes shall be drilled in the attached member just large enough to ensure a sliding fit. The hole in the second member shall be no larger than is necessary to give a secure hold without splitting the second timber. Screws shall not be hammered but shall be screwed tight without stripping the hole. A non staining lubricant such as soap may be used. Nails and brads shall be neatly punched and the holes suitably stopped. On no account shall corrugated fasteners be used.

Glazing shall be the responsibility of the joiner and may be carried out on site.

**5.08 TIMBER GRADES**

Units	- two pot epoxy painted medium density fibreboard
Stairs	- 20mm H.D flooring grade particle board, hardwood nosing

**5.09 DETAILS AND DIMENSIONS**

Check all scheduled dimensions on site prior to fabrication. Construct all joinery and fitted work true to detail.

Additional details, if required, will be supplied by the Designer upon request.

**5.10 ALUMINUM WINDOWS**

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. These are to conform to NZS 4211 1985 (high wind classification 1400Pa D W P)

Sashes to be awning type on interlock stalls sashes and frame to have mitred corners and securely fixed with mechanical jointers. Seal joints with small joint sealant. Sashes to close against flexible Neoprene weather stripping all round supply with glass ready for installation. Fit sashes with one pair of wedge fasteners, Frames to be supplied complete with factory fitted 20mm thick customwood or treated pine reveal linings grooved to receive wall linings.

**5.11 INTERIOR DOORS**

1980 high x40mm thick hollow core flush doors. Frames to be 135 x 41mm Slimline.

**5.12 STAIRS**

Provide stairs as shown. Stairs to have cut strings so that no stringer is visible. Co-ordinate with carpenter and measure on site prior to fabrication.

## PLUMBER AND DRAINLAYER

6.01 Refer to preliminary and general which covers all parts of the work.

6.02 **GENERAL**

All plumbing work shall be carried out by a licensed Plumber to the requirements of the Local Authority and the New Zealand Building Act 1991.

Method of compliance will be to New Zealand Building Code.

All work shall be set out as shown on drawings services plan, except with prior permission from the Designer.

All materials shall be the best of their kind and to the Designers approval.

All work here described shall include all jointing materials, nails, lead wedges, wall hooks, collars, straps etc, necessary to the perfect completion of the job.

All fittings and work shall be in perfect working order on completion.

Liaise with carpenter for supply of all flashings to window joinery.

6.03 **MATERIALS**

All cold water reticulation in polybutylene pipes.

All hot water reticulation in copper pipe.

All wastes in UPVC to NZS 7641 as approved by the Local Authority.

Terminal and back vents in UPVC as above.

Spouting and downpipes as shown. (generally upvc)

6.04 **WORKMANSHIP**

All pipes shall be set in straight lines with even gradients avoiding places where airlocks are likely to occur. Use easy bend wherever possible.

Take pipes in the shortest most practicable route however under the floor and parallel to joists if possible.

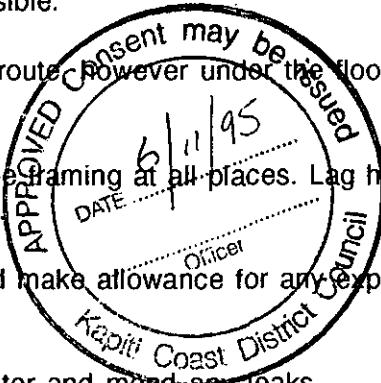
Conceal all pipes, wastes, vents etc within the framing at all places. Lag hot water supply pipe to outlets with spirally wound plumbers felt.

Fix all PVC to manufacturers instructions and make allowance for any expansion especially when cutting through framing.

Test all pipework for 60 minutes with full water and mend any leaks.

Ensure that galvanised iron, copper and aluminum are nowhere in contact by placing strips of 2ply bituminous fabric between them where this would otherwise occur.

Ensure that carpenter provides all necessary supports, grounds etc.



**6.05 FLASHINGS**

Supply, fold and fix flashings as required or requested in galvanized mild steel or powder coated aluminium.

**6.06 SCOPE**

- New services as shown.
- Connection to existing services, extend to connect.
- Supply and installation of all traps, wastes, vents etc.
- Installation of all fittings as shown.
- Extension of existing vents etc. through new structure.

**6.07 DRAINLAYER**

All drainage work shall be carried out by a licensed drainlayer to the requirements of the Local Authority and of the New Zealand Building Act 1991.

Drains shall not be covered until inspected, tested and approved by the Sanitary Inspector and to the satisfaction of the Designer. Apply for the necessary permits and pay fees.

**6.08 MATERIALS**

Sewer drains shall be 110diameter UPVC, conforming to NZSS 365, jointed with Neoprene sleeves tied 1.54mm FMB stainless steel. Inspection junctions, gully traps, bends etc shall be first quality PVC.

Stormwater drain to be 100mm as above.

**6.09 WORKMANSHIP**

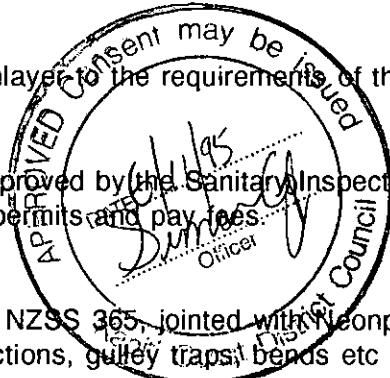
Drains are to be laid with even gradients not less than 1 in 50.

Refer to excavator for excavation and backfilling.

Take pipes in the shortest most practicable route.

**6.10 COMPLETION**

All drains must be checked before completion, and their location indicated accurately (including inverts) on an "as laid" plan submitted to the Designer.



## PAINTER AND DECORATOR

### 7.01 PRELIMINARY

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

### 7.02 MATERIALS

In this section of the specification where the word "paint" is used the reference shall also apply to vanish unless obviously inapplicable.

Generally all materials shall be of NZ 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 in accordance to the manufacturers recommendations. Any thinning of the paint required shall be carried out strictly to the makers recommendations succeeding coats of paint shall be of the same brand, unless approved otherwise.

### 7.03 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 Buildings". 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 off to remove brush marks. DO NOT PAINT OVER UN-PUNCHED NAILS or other protruding fixings.

### 7.04 COLOUR SCHEMES

The owner will select from standard colour charts, colours he will require and the contractor is to allow for picking out sashes, doors, porches or any other reasonable colour change required.

### 7.05 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 the first coat of sealer. Stop all nail holes and gaps in finishing timbers.

### 7.06 EXTERIOR PAINTING

Prime all exterior woodwork unless an oil finish is specified. After priming, all external woodwork and adjacent metalwork such as flashings, spouting and downpipes, is to be given one good undercoat followed by a finishing coat of high gloss paint (acrylic or enamel).

Wipe down all metalwork with solvent before priming.

Priming coats shall be well brushed in and all faces shall be covered, ends of laps and tops and sides of sashes, doors and such like. Sashes and doors shall be painted with enamel paint, not acrylic.

Hardiflex lining to eaves soffits shall be painted with 2 coats of PVA latex paint. Fibre-cement sheets (e.g. Hardiflex) shall be painted with 2 coats of acrylic gloss paint or shall be finished with other surface treatment as required. 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 the surface, and applied strictly according to the manufacturer's specifications.

**7.07 INTERIOR PAINTING**

All interior finishes are to be as required. Wall linings and ceilings shall be given one coat of undercoat and finished with two coats of approved flat or semigloss paint as required. Where full gloss is required in toilets and cleaners cupboard the finishing coat shall be full gloss enamel. Doors shall be painted on both faces and all edges.

Allow to paint counter, carcass and shelves unless pre-finished surfaces are specified.

**7.08 PAPERHANGING**

Where required 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 protuberances. 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 their defects.

Any mismatched or faulty papers will be rejected and replaced, including hanging, at no cost to the owners.

**7.09 COMPLETION**

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

## ROOF COVERINGS

### 8.01 PRELIMINARY

The whole of the works shall be carried out in accordance with and shall conform to the bylaws and regulations of the Local Authority.

### 8.02 EXTENT OF WORK

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

### 8.03 METAL ROOF TILE

Materials: The tiles shall be from an approved metal roof tile manufacturer (colour selected by owner).

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.

Battens: Supply to manufacturers recommendations. Battens to be fixed at maximum 363mm centres with first batten 330mm from face of fascia.

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

#### Ridges, Barges, Hips:

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

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

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

### 8.04 CONCRETE ROOF TILES

Materials: The tiles shall be from an approved concrete tile manufacturer (colour as selected by owner.)

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.

Fixing 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 centre 50mm x 37mm, between 600mm and 900mm centre 50mm x 50mm battens.

**Tiling:** Lay tiles to a minimum head of 75mm. Secure every eaves course tile, every top course tile, all perimeter tiles with 57mm x 37mm and 50mm x 50mm battens. Secure every alternative tile within the body of the roof. The first course of tiling shall be fixed so as to provide an adequate projection over the fascia into the gutter.

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

**Hips:** Fix starter hip tiles at the foot of all hips. Cut tiling closely to the rake of the hip. Cover all hips with ridge tiles to colour as specified, bedded and struck pointed in cement mortar coloured to blend in with tiles. Hips 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 ridge tiles of selected colour bedded and pointed to match the tiles. The end ridge and every alternative edge must have weep holes fitted when mortar is still wet.

**Mortar:** All bedding mortar shall be specially mixed mortar and for the 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.

## 8.05 LONG RUN ROOFING

Materials: Zincalume steel roofing shall be 0.55mm thick Timline profile. Roofing shall be pre-coated with "colourcoat" silicone modified polyester G2 in accordance with the manufacturers instructions.

Underlay: Building paper underlay shall be Duroid roofing underlay (D R U) or equal and approved.

Flashings: Flashings shall be fabricated from 0.55 G2Z sheet or 0.9mm aluminium sheet colour to match adjacent roofing as recommended by the manufacturer.

Spoutings: Spoutings shall be P V C fascia gutter on concealed brackets with down pipes and standoff brackets to match.

Fixings: Rivets, bolts, screws etc shall be compatible with adjacent materials so that no electrolytic action will occur.

Sealant: Sealant if required shall be 'Silaflex N' (Neutral Cured) by Fosroc and BR 606 preformed strip.

Birdproofing: Bitumenised foam strips to Trimline profile shall be 'Tetral' as manufactured by Aluminium supplies Ltd.

Form ridges, barges, hips and valleys where shown on the drawings as recommended by the roofing manufacturer.

## 8.06 ON COMPLETION

On completion of the roofing work clean down and remove all stains, nails, metal filings and other debris from all roof surfaces and gutters. Leave all roofing and flashings in a workmanlike, undamaged and weather proof condition on completion.

## ELECTRICAL

9.01 Refer to the Preliminary and General section which covers all parts of the work.

9.02 **GENERAL**

All electrical work shall be carried out in accordance with the Electric Wiring Regulations 1961, and to Local Authority requirements and to the complete satisfaction of the Local Inspector and the Designer. All cutting and drilling of timber is part of the work, but care must be taken of the work of other trades.

The Electrical contractor is required to co-operate with the carpenter at all times in the fixing of his work.

All wiring is to be concealed, with a minimum of horizontal runs through walls.

9.03 **MATERIALS AND WORKMANSHIP**

All materials are to be of the best quality of their kind and free from defects.

Cable shall be TPS, securely clipped to framing where exposed.

Flush boxes may be nailed to framing provided flush plates are correctly aligned with finished wall surface.

Full width backing shall be provided for batten and ceiling roses, and any other fixtures attached to framings.

Arrangement of circuits shall be approved by the Designer prior to installation.

9.04 **SCOPE OF WORK**

Install all electrical work as shown and to selection.

Supply and install as necessary - cables, switches, lamps, fuses, MCB's and other fixtures necessary to complete lighting and power circuits.

9.05 **COMPLETION**

The whole of the electrical system must be tested and passed by the Power Boards Inspector before being taken over by the owners.

## SPRAY TEXTURE FINISH

### **10.01 PRELIMINARY AND GENERAL**

This specification is for the application of spray texture finishes to the exterior of the building as shown. A sample panel showing the proposed texture and finish is to be supplied with any quote. The work is to include selected colour over or as part of the finish. Only approved applicators will be accepted for this work.

### **10.02 SURFACE PREPARATION**

It is the applicators responsibility to ensure that the base material is up to standard before application of the texture coating.

Remove all dust and other surface detritus before starting work. Fill holes and other imperfections to ensure an even finish.

Apply approved filler and tape to all joints to manufacturer's instructions. Allow to cure and sand smooth before sealing coat is applied.

### **10.03 COATING APPLICATION**

All external surface to receive a sealer and basecoat as required before application of the top coats. Allow all coats to dry and cure before further coats are applied. Apply only when weather conditions are suitable and protect from rain during the drying period.

A coarse heavy texture finish is required to be applied. The sample panel provided will act as a standard for the final on site finish.

### **10.04 WARRANTY**

All systems are to be warranted for film integrity for 10 years from the date the application is finished. The applicator is to provide a written warranty to the owner stating that the work has been carried out to manufacturer's instructions and the warranty period as above.

## BRICKLAYER

### 11.01 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).

### 11.02 RELEVANT SPECIFICATIONS

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

### 11.03 MATERIALS

- (a) BRICKS: Bricks for external veneers and foundation walls shall be of the colours and type selected and shall comply with NZSS 366 Caly 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) PLASTICIZER: Plasticizer 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 MORTARS: Sand used shall be clean, sharp and shall comply with the relevant clauses of NZSS 2129, 1967, Sands for mortar, Plasters and External Renderings.

### 11.04 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.

### 11.05 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 more than 1.00mm above wall line. Corners shall be raked 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 10mm thick and shall be tooled as directed as work proceeds. Where tapestry bricks are used, care should be taken to use a tool slightly smaller than joint width to prevent pushing mortar into the brick striations.

**11.06 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 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.

**11.07 SILLS**

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

**11.08 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.

