

Inspector: M 17856
17855

File No. _____


Receipt No. 17854

Date Permit Issued 21/8/89

OWNER

Name T Selwyn

Mailing Address % P.O.
Rawene
Northland



BUILDER

Name Aper Homes Ho

Mailing Address P.O Box 271
Whangarei
Northland

PROPERTY ON WHICH BUILDING IS TO BE ERECTED/DEMOLISHED

SITE

Street No. _____

Street Name Marriner St

Town/District Rawene

Riding Rawene %

LEGAL DESCRIPTION

Valuation Roll No. 570-77/1

Lot _____ D.P. _____

Section 102 Block _____

Survey District Rawene Township

DESCRIPTION OF PROPOSED WORK AND MAIN PURPOSE OF USE

New Dwelling

FLOOR AREA Whole Sq. Metres 79.15

DWELLING UNITS Number Erected 1

ESTIMATED VALUES \$	Building	<u>51,500</u>	<u>00</u>
	Plumbing	<u>6,500</u>	<u>00</u>
	Drainage		
	G.S.T.		
TOTAL	<u>58,000</u>	<u>00</u>	

NATURE OF PERMIT (TICK BOX)

NEW BUILDING
- exclude domestic garages and domestic outbuildings

FOUNDATIONS ONLY

ALTERED, REPAIRED, EXTENDED, CONVERTED, RESITED
- include installation of heating appliances

NEW CONSTRUCTION OTHER THAN BUILDINGS - include demolitions

DOMESTIC GARAGES AND DOMESTIC OUTBUILDINGS

FEES APPLICABLE

Building Permit	\$ <u>253.00</u>	Water Connection	\$ _____
Street Damage Deposit	\$ _____		\$ _____
Building Research Levy	\$ <u>58.00</u>		\$ _____
Plumbing	\$ <u>125.00</u>		\$ _____
Drainage	\$ _____		\$ _____
Sewer Connection	\$ _____		\$ _____
Vehicle Crossing Levy	\$ _____	G.S.T.	\$ _____
M.S. Plumbing	\$ _____	TOTAL:	\$ <u>436.00</u>

Receipt No. 17856+17855-17854

Date of Payment 4/8/89

Authorised Officer M J [Signature]

Special Conditions:

24 hrs Notice prior to inspection

Engineers Report if required

Boundary pegs to be sited

Work to comply with District Scheme

Work to comply with 3604

Footings inspection

Pre-line inspection

Installed to manufacturers instruction

Date Inspected _____ REMARKS (e.g. stage reached with work) _____

FOR UNIT B.

NAME:

ADDRESS:

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

ROOF TYPE: Light / Heavy

ROOF PITCH: 0° - 25° / 26° - 45°

WIND AREA: High / Medium / Low

W = 38.4 B.U.'s/m 18+14 x 1.2

EARTHQUAKE ZONE: A / B / C

E = ≥ B.U.'s/m²

ROOF OR BUILDING LENGTH

BL = 130m

ROOF OR BUILDING WIDTH

BW = 60m

GROSS ROOF OR BUILDING PLAN AREA

GPA = 7915m²

EARTHQUAKE: B.U.'s ALONG AND ACROSS

E x GPA = 2 x 7915 = 158.3 B.U.'s

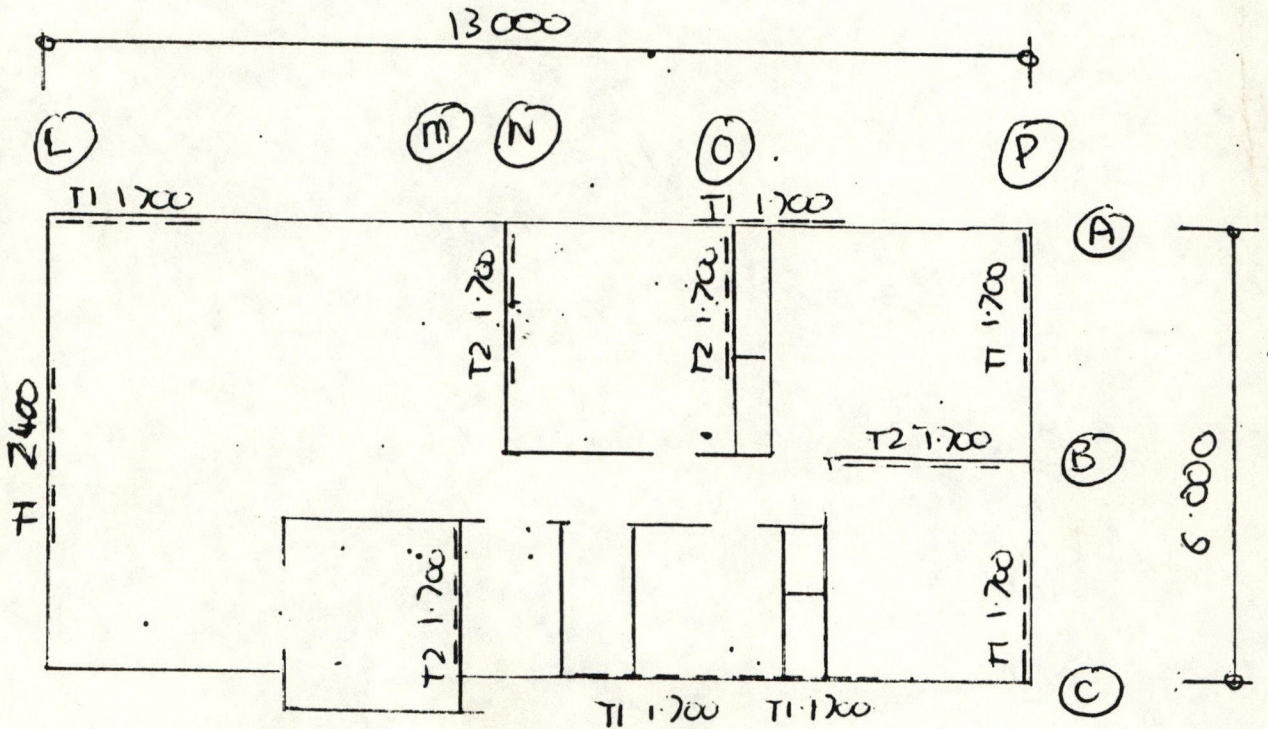
WIND: B.U.'s ALONG

W x BW = 384 x 60 = 230.4 B.U.'s

WIND: B.U.'s ACROSS

W x BL = 384 x 130 = 499.2 B.U.'s

SKETCH PLAN (external and internal walls):



Low B.U.'s
Required

Wall Line

Wall Beacing Elements Provided

ALONG

Label	Minimum B.U.'s Required	Label No.	Type	Rating B.U./m	Length (m)	B.U.'s Provided
A	130	A1	T1	42	1.700	71
		A2	T1	42	1.700	71
		Sub-total					142 ✓
B	70	B1	T2	62	1.700	105.4
		Sub-total					105.4
C	130	C1	T1	42	1.700	71
		C2	T1	42	1.700	71
		Sub-total					142 ✓
D						

230

TOTAL

Sub-total

TOTAL

389.4

ACROSS

L	60	L1	T1	42	2.400	100.8
		Sub-total					100.8
M	70	M1	T2	62	1.700	105.4
		Sub-total					105.4
N	70	N1	T2	62	1.700	105.4
		Sub-total					105.4
O	70	O1	T2	62	1.700	105.4
		Sub-total					105.4
P	60	P1	T1	42	1.700	71
		P2	T1	42	1.700	71
		Sub-total					142 ✓

499

TOTAL

559 ✓

FOR UNIT A:

NAME:

ADDRESS:

STOREY

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

ROOF TYPE: Light / Heavy

ROOF PITCH: 0° - 25° / 26° - 45°

WIND AREA: High / Medium / Low

W = 45.6 B.U./m 22 + 16 x 1.2

EARTHQUAKE ZONE: A / B / C

E = 2 B.U./m²

ROOF OR BUILDING LENGTH

BL = 13.0m

ROOF OR BUILDING WIDTH

BW = 6.0m

GROSS ROOF OR BUILDING PLAN AREA

GPA = 79.1m²

EARTHQUAKE: B.U.'s ALONG AND ACROSS

E x GPA = 2 x 79.1 = 158.2 B.U.'s

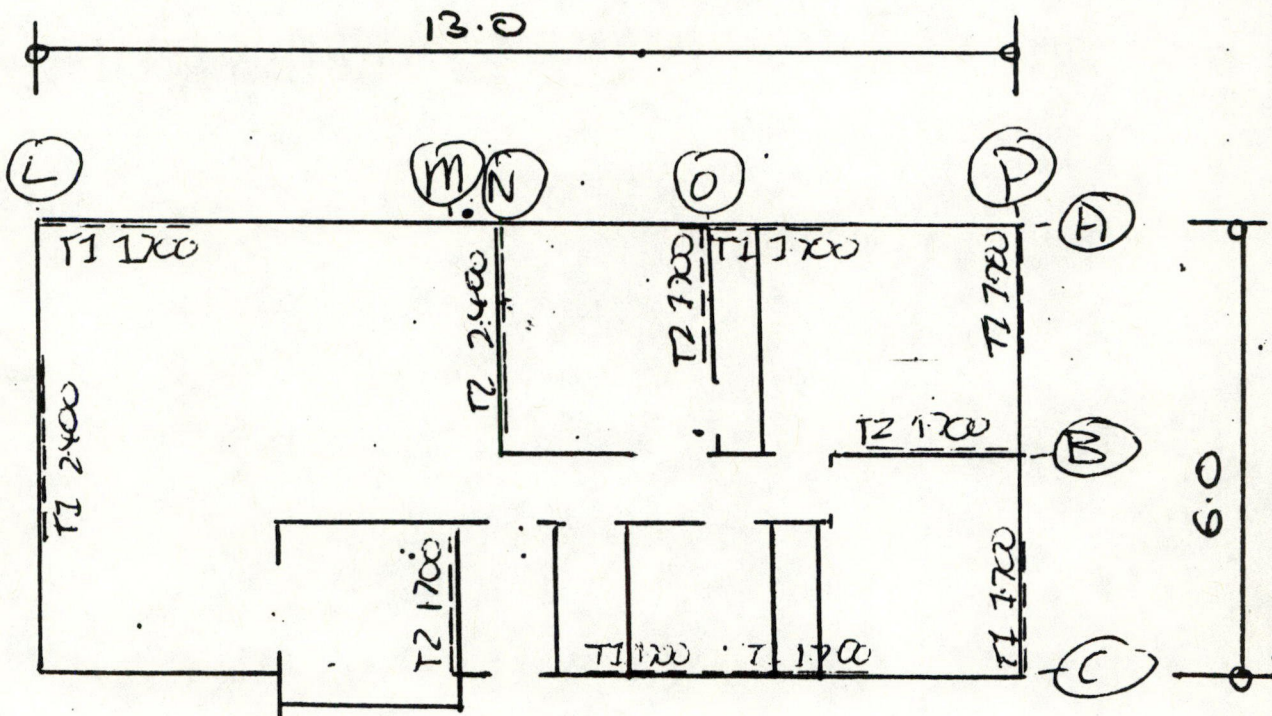
WIND: B.U.'s ALONG

W x BW = 45.6 x 6.0 = 273.6 B.U.'s

WIND: B.U.'s ACROSS

W x BL = 45.6 x 13.0 = 592.8 B.U.'s

SKETCH PLAN (external and internal walls):



Total B.U.'s Required

Wall Line

Wall Bracing Elements Provided.

1	2	3	4	5	6	7	8
ALONG	A		A1	T1	42	1.700	71.4
			A2	T1	42	1.700	71.4
		130	Subtotal					142.8
	B		B1	T2	62	1.700	105.4
		70	Subtotal					105.4
	C		C1	T1	42	1.700	71.4
			C2	T1	42	1.700	71.4
		130	Subtotal					142.8
	D						
273.6	TOTAL				TOTAL	391	
ACROSS	L		L1	T1	42	2.400	100.8
		60	Subtotal					100.8
	M		M1	T2	62	1.700	105.4
		70	Subtotal					105.4
	N		N1	T2	62	2.400	148.8
		70	Subtotal					148.8
	O		O1	T2	62	1.700	105.4
		70	Subtotal					105.4
	P		P1	T1	42	1.700	71.4
			P2	T1	42	1.700	71.4
		60	Subtotal					142.8
	532.8	TOTAL				TOTAL	603.2

Franklin University Ltd
 27 Hill Ave.
 Whangarei
 Ph: 480-565

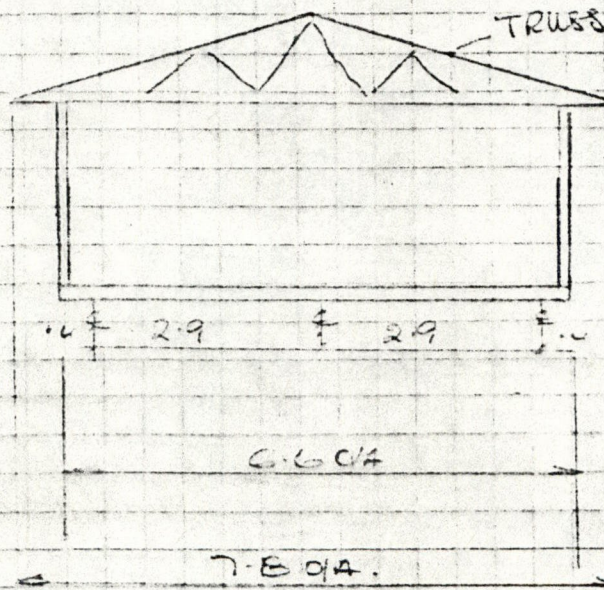
JOB NAME: 1270100 PAGE NO:
 SECTION: STRAP FOR REGAL
 JOB NO: 1270100 DESIGNED:
 DATE: May 89 CHECKED: TS

CALCULATION SHEET

REGAL

THIS PLAN IS FOR A 2 BED ROOM DWELLING 11.5m by 6.6m wide.

ITS SUBFLOOR CONSTRUCTION IS FOR DRIVEN ROUND POLES, EITHER CANTILEVERED OR BOLDED. PROVISION FOR A BASEMENT IS MADE. ON ONE SIDE APPROX 3M X 5M DIAPHRAGM FLOOR



FLOOR LOADING DL = 0'S LL = 1.5 kPa

LOAD Roof Only DL = 0.30 LL = 0.25 (maintenance)

REACTION TO OUTER WALLS DL ROOF.

$$= 0.30 \times \frac{7.8}{2} = 1.17 \text{ kN/m}$$

$$\text{S.W. OF OUTER WALLS} = 0.5 \times 2.4 \text{ kN/m} = 1.2$$

$$\Sigma = 2.37 \text{ kN/m}$$

FLOOR LOAD = 2.37 kPa

$$\text{TOTAL LOAD FROM WALL TO POSTS} = 2.37 \times 11.5 = 27.255 \text{ kN}$$

$$\text{CANTILEVER MOMENT} = 27.255 \times 0.4 \text{ kN/m} = 10.902 \text{ kNm}$$

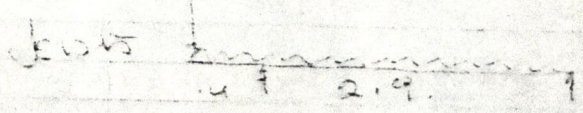
CALCULATION SHEET

No. of joists = 29

W. Joist as shown:

$$d_{req} = \sqrt{\frac{GM}{f_b \sigma}} = \sqrt{\frac{1.94 \times 10^6}{1.6 \times 10^8}} \quad K_1 = 1$$

= 89 mm Centroidal moment of



Joist @ 400 c/c

$$UCL = 1.2 \times 1.4 = 0.84 \text{ kN/m}$$

$$d = 2.87 \times 1.4 = 0.94 \text{ kN}$$

$$M_c = 1.94 \times 1.4 = 0.88$$

$$M_{c, h_c} = \frac{w l^2}{8} = 0.84 \times 1.4^2 = 0.84 \text{ kNm}$$



$$M_{spc} \approx 0.541 \times \frac{2.87}{2} = 0.651 \text{ kNm}$$

$$b = 47 \quad K_1 = 1.35$$

$$d_{req} = \sqrt{\frac{GM}{f_b \sigma}} = 101 \text{ mm}$$

Based on Deflection & Torsion $DW = 1.25 \text{ kPa}$ over SC floor

$$UCL = 1.2 \times 1.4 = 0.84 \text{ kN/m}$$

$$W = 1.5 \times 2.9 = 1.45 \text{ kN}$$

$$l = 1.003 \times 2.9 = 2.91 \text{ m} \quad L_{eff} = \frac{l}{2} = 1.45 \text{ m}$$

$$d = \sqrt{\frac{60 \times 1.45 \times 10^3 \times 2.9^3}{\sqrt{3 \times 10^4 \times 80000 \times 4.5 \times 10^4}}} = 150 \text{ mm}$$

Use 150 x 50 joist @ 400 c/c

CALCULATION SHEET.



$$2 \times R_1 = \frac{1.5 \times 3.0^2}{2} - 9.48 \times 3.0$$

$$R_1 = 2.551 \text{ kN}$$

$$2 \times R_2 = \frac{1.5 \times 2.4^2}{2} - \frac{1.5 \times 2.4^2}{2} - 9.48 \times 2.4$$

$$= 1.0012 \text{ kN} \quad R_1 + R_2 = 3.552 \text{ kN} \quad \Sigma W = 3.552$$

1. load to outside beam = 2.551 kN @ 400mm

2. load to center = 2.014 kN @ 400mm

Base Design on center Beam

$$\frac{2.551}{0.4} = 6.3775 \text{ kN/m}$$

$$\text{Beams} = 2/200 \times 80$$

$$M = \frac{w l^2}{8} = \frac{6.3775 \times l^2}{8} = 0.8066 l^2$$

$$K_1 = 1.35 \quad b = 2 \times 47 \quad f = 6 \text{ MPa}$$

$$d = 194 \quad Z = 2 \times 47 \times 194^2 = 559,631 \text{ mm}^2$$

$$f_z K_1 = 4,277,605 \text{ kNm} = M = \frac{W l^2}{8}$$

$$l = 2433 \text{ mm}$$

Design Disposition for def. case $C_1 = 1.25$ $C_2 = 1.0$
 as per spec. - 10.

$$\Rightarrow \text{UNI} = \frac{2.011}{0.4} = 5.0275 \text{ kN/m}$$

$$W = 5.0275 \text{ kN}$$

$$\text{Total } 2.4 \text{ m} = W = 12.066$$

$$I = 2400 \times 100^3$$

$$Z = 1.6$$

$$d = \sqrt[3]{\frac{60 \times W l^2}{8 \times 10^6 \times 1.6}} = 213 \text{ mm} \quad \text{Use}$$

CALCULATION SHEET.

JOB NAME: <i>270104</i>		PAGE No. <i>1</i>
SECTION: <i>...</i>		
JOB No. <i>270104</i>	DESIGNED: <i>...</i>	
DATE: <i>...</i>	CHECKED: <i>...</i>	

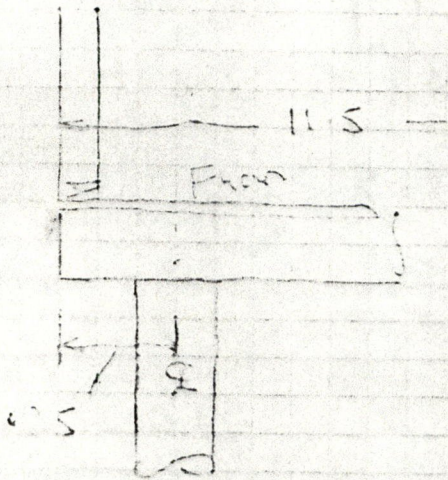
Trg 2.2 $W = 11.12m$

$E = 2.3 \times 10^8$

$d_{req} = 195m$

$\bar{z} = 2/200 \times 50$ dia. one 2.2m. span on

clearance height = 11.5 =



$2.2 \times 5 = 11m$

$11.5 - 11 = 0.5$

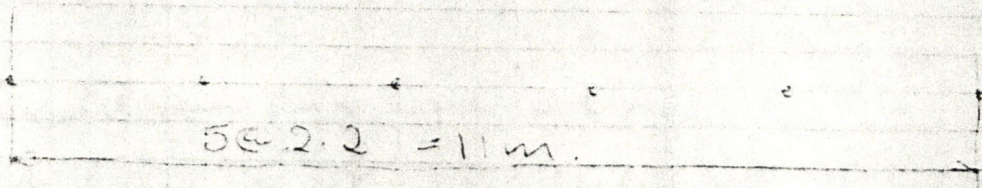
\therefore 0.25 (and less) sec.

1. layout

$2.2 + 2.2 + 2.2 + 2.2 + 2.2$

2.4

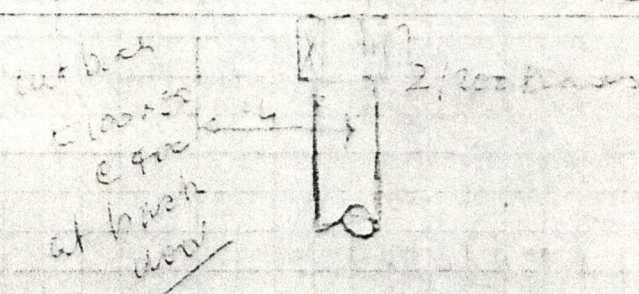
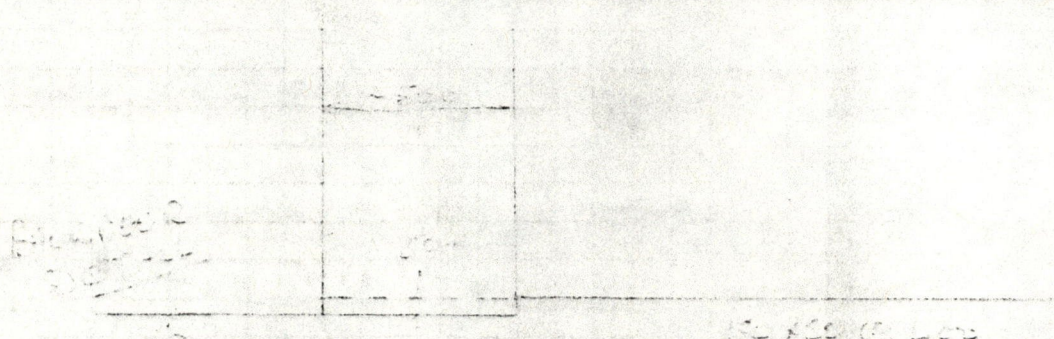
2.4



CALCULATION SHEET.

Consulting Engineer
 27 East Ave.
 Whangarei.
 Ph. 490-565

JOB NAME		PAGE No.
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check stress @ base = $R = 258 \text{ kN}$

$$\frac{258 \times 10^3 \times 1.5}{100 \times 100} = 0.37 \text{ MPa} < 1.306$$

WIND LOADING

$R.F. = 50\%$ $w_{wind} = 4 \text{ kN/m}^2$
 $S_1 = 1$ $S_2 = 0.6$ $V_0 = 37$

$$q_s = 1.013 \times 26 \times 10^3 \times 0.6 = 0.148 \text{ MPa}$$

Laterally WIND LOAD

$$= 11.5 \times 2.4 \times 11 \times 0.148 \text{ kN}$$

$$= 18 \text{ kN}$$

longitudinally = $6.6 \times 2.4 \times 11 \times 0.148 = 10 \text{ kN}$

For Continuum piles up to 2 km.

load / pile = $\frac{15}{10}$ - 1.5 kN/pile

CALCULATION SHEET

Embedment depth

Day $P_0 = 4000$
 Allowable $\sigma = p_{av} = 100 \text{ kPa}$

$$A = \frac{1.17 \times P}{S \cdot B} = \frac{1.17 \times 1}{100 \times 1.4} = 0.0243$$

$$\begin{aligned} \text{Embedment depth} &= A \left(1 + \sqrt{1 + \frac{2.18L}{A}} \right) \\ &= 0.0243 \left(1 + \sqrt{1 + \frac{2.18 \times 2.4}{0.0243}} \right) \\ &= 0.4215 \end{aligned}$$

Fact $S = 50 \text{ kPa}$ $A = 0.0583$
 $E, D = 0.15$

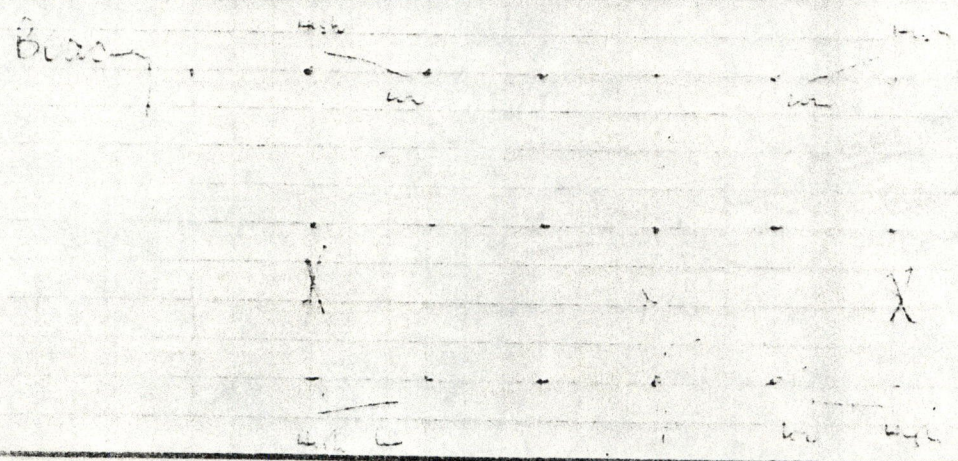
Min. Minimum embedment depth = 1.0 m. below
 gr. line.

$$\delta = \frac{P L^3}{3 E I} \quad \delta = \frac{\pi D^4}{64}$$

$P = 1 \text{ kN}$ $L = 2.4$

USE SET DESIGN
 + POLY.

$$\delta = \frac{1000 \times 2400^3 \times 64}{8 \times 20000 \times \pi \times 100^4} = 7.3 \text{ mm.}$$



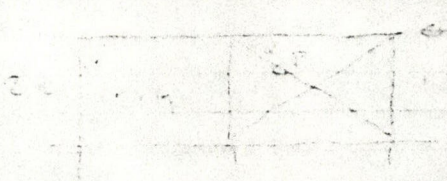
CALCULATION SHEET.

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 27 West Ave.
 Whangarei
 Ph. 480-565

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2x 3m x 3m

For brace = $\frac{14}{3} = 6.67$



Tension load

$F = \frac{6}{4.5} = 1.33$

$S_{req} = (2.4^2 + 2.4^2)^{1/2} = 3.37m$

Compression brace

38

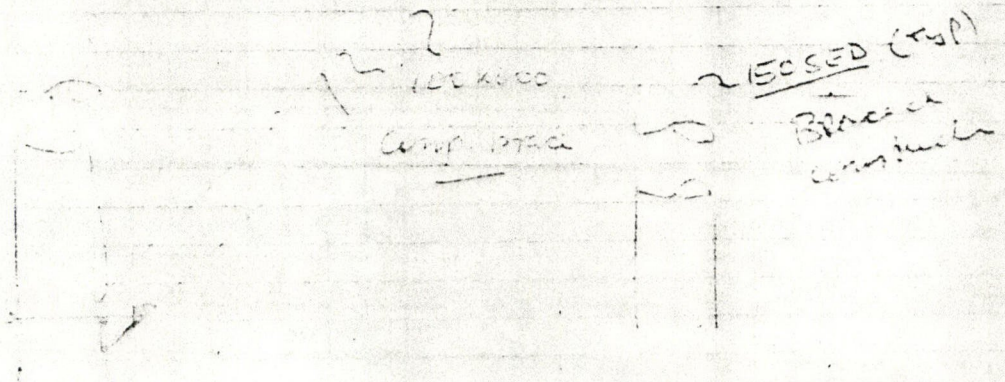
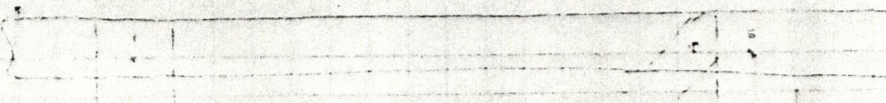
$\frac{3.37 \times 1000 \times 85}{9.4} = 30.45$

100 x 100 compression brace

$\frac{P}{A} = \frac{8.5 \times 10^3}{9.4}$

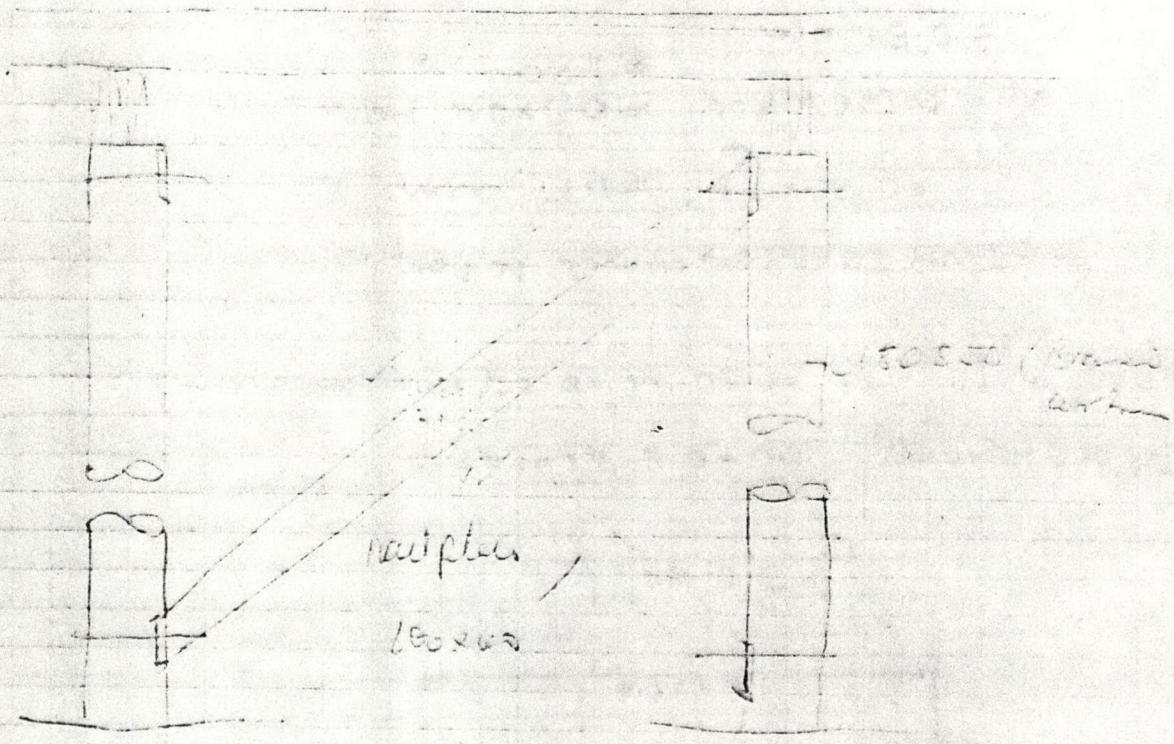
$= 904.2$

For brace construct embed 600mm.



CALCULATION SHEET.

DESIGNED	DATE
CHECKED	



ENDEAVOUR

This is a 300x300 mm I-beam by 6 m long
 have same beam & joint design as for Panel
 Basement with can go to 300 mm

load to beam = $2 \times 3 = 6 \text{ kN/m}$

$$M = \frac{wL^2}{8} = \frac{6 \times 3^2}{8} = 6.75 \text{ kNm}$$

$$d = \sqrt{\frac{6M}{F_b}} = \sqrt{\frac{6 \times 6.75 \times 10^3}{16 \times 135 \times 9.8}} = 277 \text{ mm}$$

Based on deflection $w = 21.6 \text{ kN}$ $C = 0.8$

$$d = \sqrt[3]{\frac{5 \times 60 \times 21.6 \times 10^3 \times 2600^3}{210 \times 10^9 \times 0.8 \times 9.8}} = 276 \text{ mm}$$

Max opening = 316 mm for 300 x 300 beam

APEX HOMES LTD

7 Water Street Whangarei
P.O. Box 271

SPECIFICATION

FOR

APEX HOMES LTD

AT

LOT 102, MARINER ST,
RAWENE.

CONTRACT: This contract includes the supply and delivery of all materials, labour, fittings, plant, etc., necessary for the due and proper completion of the building as shown on the drawings and herein specified in a workmanlike manner and in accordance with the local by-laws.

PERMITS: Contractor to comply with the labour and building by-laws of the district, to apply for and to obtain all the necessary permits and to pay all fees for same. Vehicles crossings and water meter charges are not included.

PROVIDE AND FIX: The words "provide and fix" shall be construed to mean "Provide" and "Fix" where mentioned separately, unless otherwise specified.

INSURANCE: The employer to have all his employees covered against accident by an "Employers Liability" policy and to take out insurance against fire with an insurance office for a sum sufficient to cover 100% of the contract sum, both to remain in force until the building is taken over by the owner.

WORKMANSHIP: All workmanship must be accordance with normal trade practice and all materials must be suitable for their proposed use.

INTERPRETATION: Work or materials shown on the plans and not specified, or specified and not shown must be supplied as though both shown and specified. Materials shown but not specified must be of the kinds commonly used for the service they are intended to perform. Figured dimensions shall supersede those to scale. Only items shown on the appropriate plan shall apply, whether or not they are included in the specifications.

ALTERATIONS: No alterations to plan or specifications will be permitted after the job has gone to production, except where the "Materials" clause is enforced, unless alterations are authorised and paid for prior to being carried out.

MATERIALS: Any materials herein specified that are not procurable at the time they are required, thus tending to retard the progress of the contract, may be substituted with materials that conform to the local by-laws and the Lending Institution. Any difference in cost will be adjusted at the completion of the contract.

/...

MAINTENANCE; Period to be thirty days after the owner has taken possession. Any parts that require adjusting, which have been included in this contract shall be adjusted or replaced as specified in this specification at the contractors own expense. One maintenance list only is required, in writing within the specified thirty days. Failure to do such absolves the contractor from further claim.

CONTINGENCIES; Provision is to be made by the builder and the owner to meet any contingencies that may arise due to fluctuations in the prices of various materials of labour. Should there be either a rise or fall in the price of labour or materials from the date the tender is submitted until the final payment, an adjustment to the Contract Price is to be made accordingly.

EXCAVATE: Excavate as required for all site levellings, foundations, footings, block walls, waterpipes, etc., to the various depths, levels and grades required for the erection of the building and its appurtenances. All sub-soil from the foundations and other excavations is to be deposited on the site unless otherwise specified. All top-soil and vegetation to be removed from under concrete floors.

ADDITIONAL WORK: Any additional work to that specified herein and in the said plans and specifications which shall be required by the local authority or by the Lending Institution, shall be notified by the builder to the client and the extra cost (if any) of such additional work shall be added on to the contract price and paid to the builder by the owner on the completion of the job.

SITE AND ACCESS: The owner will be responsible for ensuring that the section is fully pegged with survey pegs correctly numbered and flagged, and for the provision of all weather access for the vehicles of the builder and sub-trades. Owner to remove from building site all obstructions, trees, heavy growth, etc.

ROCKS: The removal of reef or large rocks from foundations or drainage excavations will be considered an extra to the contract.

DOUBTFULL BEARING: The owner shall be responsible for the cost of any additional costs to those provided for by this specification and the accompanying drawings; through encountering ground of doubtful bearing capacity or for landslides resulting from causes beyond the control of the contractor.

LIENS: All liens money to be lodged with the builders Solicitor upon completion, and released thirty days after the completion notice is signed by the owner.

MATERIALS: Cement must be Portland Cement, conforming in all respects to B.B.S.

SAND: All sand shall be clean, of mixed grades and free of organic matter.

WATER: Used for concrete must be clean and fresh.

CONCRETE: All concrete work to be carried out in accordance with the local by-laws and the Lending Institution requirements. For general purpose the mixture shall be of 6 parts of metal to 1 part of Portland Cement. All to be well mixed and tamped into trenches and boxing immediately after mixing.

PROFILE CORNERS: To be constructed at external walls over 1200mm high as detailed.

BOXING: If boxing is required it must be well fitted together and wetted before the concrete is placed.

FOOTINGS: To be constructed in 6 : 1 concrete and reinforced with approved M.S. rods and lapped not less than 40 diameters for DMS steel (see plan for size).

PILES: To be 600 x 200 x 200 precast concrete or 125 x 125 square timber piles bedded on 100 x 300 x 300 concrete pads and brought up to 300mm above ground level. Arrange piles at not more than 1.350m centres in each row.

CHIMNEY: Chimney footings to be 150mm thick concrete slab reinforces with 12mm M.S. rods at 300mm centres both ways and taken down to at least 275mm and made 150mm wider than the chimney. Chimney to be built up in precast concrete blocks or bricks as shown on plan. Line inside of fireplace with firebricks and form firebricks back. Provide and fix a colonial grate and fire back and hobs on each side.

VENTILATORS: Build into base walls mouse proof ventilators of an approved manufacture and max. 1800 crs. and 750 crs. from corners. Recessed fibrolite bases do not require base ventilators.

PORCH FLOORS AND STEPS: Steps and porches will generally be reinforced concrete fixed in accordance with good trade practice or as indicated on plan.

DAMP PROOF COURSE: Cover all concrete and brick faces in contact with timber work with one layer of three ply malthoid or other approved damp proof course.

/...

BRICKLAYER

FOOTINGS: To be constructed in 6 : 1 concrete.

MATERIALS: Type as shown on plan.

MORTAR: Shall be composed of 1 part of ply mortar to 3 parts of clean sharp mixed washed sand, properly mixed on a water-tight platform not more than twenty minutes before using. Add 1 part of portland cement to 3 parts of the above. Lay 1 layer water proof mortar to render water proof.

WIRE TILES: To be at max. 500mm crs. horizontally and 335mm crs. vertically.

VERMIN PROOF: With 6mm netting to perimeter of building.

WORKMANSHIP: The whole of the brickwork is to be built up by skilled tradesmen, all joints must be struck jointed mortar. Angles and intersections shall be properly bonded. Required openings and chases to be, provided for as indicated on plans.

BRICK VENEER: Build brick work clear of the wooden framing, care being taken to keep the framing free from mortar droppings. Flush up the mortar on the back of the walls as the work proceeds. Build mouseproof galv. vermin strips secured to the bottom wall plate and taken 25mm into brickwork. Point the face joints as the work proceeds. Build in window frames as detailed and set on either brick or precast concrete sills. Clean down the face of all brickwork on completion. Brick cavity to be minimum 40mm.

BASEMENT GARAGE: Retaining walls if required to be 200mm blockwork to the satisfaction of the Local Authority Building Inspector.

FIRE SURROUND: To be constructed on site with random split stone. Tiled hearth, unless otherwise specified.

TERRACE: To be constructed if shown on plan, according to details.

CARPORT: Where shown on plan, construct carport to Local Authority's requirements and to plan.

/...

CARPENTER AND JOINER

FRAMING: All timber work shall be framed, trussed, braced and assembled in a workmanlike manner and in accordance with normal trade practice. All materials are to be laid true to their various levels and constructed in a proper tradesmanlike manner to make the whole of the works a sound construction and comply with local by-laws and to the satisfaction of the Building Inspector.

BEAMS: To N.Z.S.S. requirements.

JACK STUDS: To be 100 x 100mm as scheduled, wired to the blocks. Brace between jack studs with 100 x 50mm diagonal bracing where required. For jack studs over 1800mm see structural detail plan.

FIBROLITE BASE: The fibrolite shall be 6mm thick, fixed with 40mm x 20g galv. clouts. Support at 600mm centres vertically and 675mm horizontally. Framing timber to be heart native timber or treated timber. Where floor height is over 1200mm with fibrolite and weatherboard, there shall be a profile corner.

FLOOR JOISTS: To be 150 x 50 at 600mm centres, gauged to an even surface and nailed to all stringers and plates. (or as per plan) All joists to be over a solid bearing. Allow for double joists where main bearing partitions run parallel with the joists. Increase the size of joists where basement garage is shown on plan. Solid noggings required to spans of more than 2400mm.

CONCRETE FLOORS: To have 12mm \emptyset bolts at 1350mm crs. for fastening ext. plates.

PLATES: All to be straight and in long lengths.

STUDS: To be double nailed to all plates with 75mm and 100mm nails. Place 100 x 50 studs to openings over 900mm and trimmers to studs. Stud height to be average 2400mm to living areas.

BRACES: Wherever possible brace every 4500mm of external walls to all external corners with pryde bracing checked flush into studs. Brace internal bearing partition with pryde purpose made angle bracing diagonally.

NOGGINGS: Allow to two rows of noggings to all walls.

BEARER PLATES: To be 100 x 100mm spaced as shown. All joints to be made over piles.

/...

TRUSS ROOFS: If shown on plan to be of approved manufacture as per plan.

SOFFIT: Frame for flat soffit to eaves out of 75 x 25mm and 75 x 40 bearers and 150 x 25 fascia board. Line soffit of eaves with 4.75mm flat fibrolite or any other approved material and underlay.

EXTERIOR SHEATHING: As detailed on plan. (Building paper under fibrolite).

PORCH WALLS: To be lined with flat fibrolite sheets 4.75mm thick with building paper under, unless otherwise stated on plan.

D.P.C.: Place malthoid between all concrete or masonry and timber.

TIMBER JOINERY: All exterior door and window jambs and sills to be grooved, throated and constructed in a proper and tradesmanlike manner and primed before fitting.

ALUMINIUM JOINERY: To be of approved manufacture and sizes as shown on the plan.

FLOORING: All flooring shall be 20mm H.D. particleboard, fixed to manufacturer's specifications. There may be a colour variation after sanding. All floor surfaces must present a level face and be kept as clean as practicable during the construction of the job.

FLOOR SANDING: On completion of the house, finish all floors with first cut machine sanding. Not to varnish standard - if two cuts required, owners responsibility.

INTERIOR LININGS: All walls to be lined with gibraltar board sheets, or as per plan, except block walls. All ceilings to be lined with pinex sheets. Sheets to be nailed with 30mm galv. F.H. nails. All stopping to be done with stopping plaster to an even surface. Paper quality only in service rooms. This does not include basements, garages or basement garages unless otherwise stated on the plan.

CORNICES: Cornices to all rooms shall be stock wooden scotia except where shown otherwise on the plan.

DOORS AND THEIR FRAMES: External door frames and sills shall be of D.A. heart rimu or approved treated timber. Jambs and heads out of 100 x 50. Sills out of 150 x 62. Internal door frames shall be out of 25mm dressed pine or similar approved timber.

/...

DOOR SCHEDULE: (or as indicated on plan)

Interior (main)
1980 x 760mm
Fig. 2 flush 3/87mm A.C. Butts.

W.C. & Bathroom
1980 x 710
Fig. flush 3/87mm A.C. Butts.

Wardrobes
1980 x 610
Fig. 2 flush 2/87mm A.C. Butts.

Kit. Cupboards
12mm thick (minimum)
Surface mounted 2 op rebate butts.

Front
1980 x 810mm
(as on plan)

Back
1980 x 810mm
(as on plan)

If louvre doors required, no responsibility is taken for warping after doors have been fitted.

SINK TOP: Builders special formica or as indicted on plan.

KITCHEN CUPBOARDS: All kitchen cupboard units shall be built of an approved manufacture and shall be to the dimensions shown on the plan. They shall be positioned as shown on the floor plan. Allow for false floors and toe spaces on units standing on the floor proper. Kitchen cupboard doors shall be hung on one pair of hinges and shall have fasteners fitted. Dresser and buffet tips shall be formica unless otherwise shown on plan.

HOT WATER CUPBOARD: To be constructed where shown and to be fitted with two shelves.

WARDROBES: To be lined with wall board and to have 300mm wide full length hat shelf and one coat rail.

LINEN CUPBOARD: To be constructed as wardrobes except that it will have fitted shelves.

TOWEL RAILS: Provide and fix one chrome plated towel rail in bathroom (900mm long approx).

/...

<u>MATERIALS</u>	<u>SIZE</u>	<u>GRADE</u>	<u>REMARKS</u>
Jack Studs	100 x 100	Approved by Local Authority	See Sub Floor Plan
Stringers	100 x 75 & 100 x 100	" "	
Wall Plates	100 x 50 & 100 x 75	" "	
Studs Exterior	100 x 50 & 100 x 75	" "	400 cntr
Braces Exterior	Pryde / 100 x 50	" "	
Approved Trusses	100 x 50	" "	900 "
Or Rafters Iron Roof	100 x 50 & 150 x 50	" "	900 "
Rafters Dec. Tile	100 x 50 & 150 x 50	" "	900 "
Rafters Tile Roof	100 x 50 & 150 x 50	" "	450 "
Purlins	75 x 50	" "	750 "
Valley Boards	150 x 25	" "	
Ridges Iron & Tile Roof	150 x 25	" "	
Eves Board	75 x 25	" "	Dependent on
Nogging Exterior	100 x 50	" "	spacing and
Studs Interior	75 x 50 & 100 x 50	" "	loading 600
Plates Interior	75 x 50 & 100 x 50	" "	
Noggings Interior	75 x 50	" "	675 max.
Ceiling Joists	100 x 50	" "	Iron Roof
Roof Struts	100 x 50	" "	Iron Roof (1.800 cntr.) Tile Roof (1.380 cntr.)

/...

<u>MATERIALS</u>	<u>SIZE</u>	<u>GRADE</u>	<u>REMARKS</u>
Collar Ties	150 x 50	Approved by	1800 crs.
Ceiling Batens	75 x 31	Local Authortiy	400 crs.
Facing Exterior	75 x 25 & 100 x 25	" "	
Flooring	20 Particle Board	" "	
Window Jambs & Sills	Finger Jointed Pine	" "	
Door Sills Exterior	150 x 50	" "	
Door Jambs Exterior	150 x 50	" "	
Scotia	40 x 18 Bevelled	" "	
Door Jambs Interior	Ex 150 x 25	" "	
Architrave	40 x 10 Single Splay	" "	
Skirting	60 x 10 " "	" "	
Floor Joists Spans	125 x 50	Spans	2,000mm
	150 x 50	"	2,400mm
	200 x 50	"	3,300mm
	225 x 50	"	3,600mm
	250 x 50	"	4,150mm
	300 x 50	"	5,000mm

METER RECESS: Provide recess for electric meter board where directed. Recess to be lined with Gibraltar board or similar approved material.

MANHOLE: Provide ceiling access with removable panel.

PLUMBER:

MATERIALS: All materials used by the plumber must be of accepted standard and must conform to all or any governing regulations or by-laws. Any part or parts omitted from this specification which are useful or necessary to complete this work in a proper manner, shall be taken as though specially mentioned.

FLASHING: Flash all openings through the roof and windows where necessary to make a water-tight job as required.

SPOUTING: Unless otherwise specified, provide and fix 24g. galv. iron spouting supported on heavy galv. iron brackets fixed at 900mm centres. Spouting to have graded fall to down pipes.

DOWNPIPES: Provide and fix 75mm Marley downpipes in suitable positions, unless otherwise shown on plan.

WASTEPIPES: Vent pipes and waste pipes to be P.V.C. unless otherwise shown on plan. Carry waste pipes from all fittings with traps, cleaning eyes, etc., as required. All P.V.C. installations to comply with local body specifications.

COLD WATER SUPPLY: Lay a cold water supply from main at boundary in 18mm dia. piping. Provide and fix stopcock in suitable accessible position. Lead 12mm branches to sink, bath, basin, shower and tub. All piping and fittings must be of approved brand.

HOT WATER SUPPLY: All piping in connection with the hot water system shall be in copper. Lead from cold water supply line to hot water system in 12mm piping. Provide and fix "Ajax" valve or similar. Provide and fix a 30 gallon hot water cylinder and take 18mm branches to bath, 12mm sink, basin shower and tub. All pipe fittings must be of approved brand with flanges for securing to framing. Provide drain pipe from H.W.C. subject to Council requirements.

/...

W.C. PAN: To be flushed by a 3 gallon capacity cistern of approved manufacture and fitted with all necessary fittings. Connect to pan with 37mm flush pipe.

TAPS: (Streamline pattern). The bath to have 18mm C.P. taps with 75mm ext. Basin and Kitchen sink to have 2 12mm C.P. pillar cocks. The laundry to have 2 x 12mm C.P. taps. There is to be one brass exterior tap. Interior taps to be marked "Hot" and "Cold" respectively.

BATH: Provide and fix one first quality 1500mm white standard bath, or as indicated on the plan.

BASIN: Provide and fix one Plix wall basin on cupboard where shown on plan. If vanity unit, please refer to plan for details.

WASTES: To be P.V.C. subject to Council requirements. Bath, sink and tub to have 37mm traps and wastes. Basin to have 30mm trap and waste. All wastes to discharge into gully traps. Provide any necessary antisiphonage. All sanitary plumbing to be installed by a registered plumber approved by the Health Department and the Health Inspector.

HARDWARE

GENERAL: Provide and fix all ironmongery and metalwork to complete the contract in standard chrome hardware unless otherwise specified.

DOORS: To be fitted with chrome Legge Fortune sets. Front door, lockset. Back door, lock set. Main interior doors, latch set. W.C. and Bathroom, snibset. Base door, pad both. Kitchen cupboards, fit cupboard catches and handles. Wardrobe, linen H.W. etc., one roller catch C.P. handle.

ELECTRICIAN

MATERIALS: Materials used by the electrician must be of an approved manufacture and must conform to the regulations of the Power Board and Local Authority.

WORKMANSHIP: The whole of the electrician's work must be carried out in compliance with the regulations of the said Power Board and the Underwriters Association by a duly licensed Tradesman.

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AKB

WIRING: Wire the electrical system with tough plastic sheathed and insulated cables. Connection boxes shall be used with the plastic cable and wiring shall be concealed where practical.

MAINS: Where tough rubber sheathed or plastic sheathed cables are installed as service mains, the cable terminate in an approved mains entry box fixed to the outside of the building as close as practicable to the service line termination. Subject to the supply authority's approval, point shall be installed with the service mains where so required by the Local Authority.

METER PANEL: Provide and fix one meter panel where directed.

POWER POINTS: Provide and fix points and fix flush plates to all points, in addition to a T.V. point. 7.

LIGHTS: Provide and fix lights. 12.

WATER HEATER: Wire element and thermostat to switchboard and fix control switch.

STOVE: P.C. sum of \$ 700-00.

ELECTRIC WASHER: Not supplied in contract.

HOT WATER SERVICE: Supply with 75cw element and thermostatic control to H.W. cylinder (Plumber to install).

DRAINLAYER

SCOPE: To provide and supply a system of house waste drainage in conformity with the local authority by-laws and three inspectors approval.

DRAINAGE: All drainage work to be undertaken by a registered drainlayer and approved by a drainage inspector. Excavate for and lay all necessary drains from gully traps and W.C. to sewer. All sanitary sewer pipes and connections to be 100mm of approved system. Pipes to be laid true and to a fall. All joints to be flexible type. Site drainage owners responsibility.

STORMWATER: As directed by the Inspector, or as per site plan.

/...

KS

COMPLETION: Arrange for all drainage to be inspected and tested by the Inspector or the Local Authority. After inspection, testing and approval by the Inspector, refill the trenches and leave the area affected by the drainage operations reasonably tidy. Any excess spoil is the responsibility of the owner.

PAINTER

MATERIALS: All materials used in this trade must be of approved manufacture and used according to the specifications of the manufacture.

WORKMANSHIP: Must be of a good standard and carried out by skilled tradesmen.

EXTERIOR WOODWORK: All exterior woodwork to receive one coat of approved priming. Putty all nail holes and finish with two coats of approved paint as selected, except where weather proof stain is used (two coats only).

INTERIOR FINISH: Woodwork to have a priming coat and one finishing coat.

Ceilings to have two coats PVA flat, (semi gloss in service rooms).

Gib. board walls - recommended to be papered. If painted, to have sealing coat, undercoat and one finishing coat, in shades as selected. The builder cannot be held responsible for hairline cracks to Gib. board painted surfaces due to initial house settling down period.

Inside of window surrounds to be painted.

Interior of all cupboards and pantry, unpainted.

Wardrobes to receive one coat only of PVA flat.

All interior timber not painted to have one coat of an approved clear seal.

Stop all nail holes and defects with matching putty and apply two coats of clear varnish, or two coats of Polyurethane.

CEMENT ASBESTOS SURFACES AND FIBREBOARD: Finish with two coats of PVA or acrylic resin emulsion paint where necessary. Base not included.

BASES: Block and fibrolite bases - unpainted.

/...

NUMBER OF COLOURS : Maximum allowance of three different colours per room.

ROOF: Not included in contract.

GLAZIER

Sashes generally shall be glazed by an experienced glazing firm. All bathroom and W.C. sashes shall be obscured glazed. All clear glass to be of drawn plate quality.

PAPERHANGER

All walls except where otherwise specified shall be papered with selected papers. The paperhanger must ensure that all walls are free from blemishes of any sort that will show on the finished work. Allowance of P.C. \$...^{12.00}..... per roll, average, for the purchase of selected wallpapers. All paper shall be hung true and plumb and neatly cut to all architraves, skirtings, fittings, etc. Apex Homes Ltd. accept no responsibility for white or gold wallpapers. Extra will be charged for hanging vinyl or fabrene and grass weave type wallpaper.

SOLID PLASTERER

Where steps are plastered, the finish to be the equal of a fine plastered finish.

PLEASE NOTE

If type of range, formica and paint colours are not to hand when required, builder will determine.

5802

APEX HOMES LTD

7 Water Street, P.O. Box 271, Whangarei. Telephone 484-422

12th July 1989

J. Stephenson
Planning Officer
Hokianga County Council
P O Box 3
RAWENE

HOKIANGA
14 JUL 1989
COUNTY COUNCIL

Dear Madam

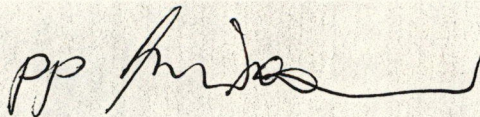
re : Lot 102 Marriner Street Rawene

Enclosed herewith amended site plan for the above as per your letter of 16.6.89

Also cheque for \$2,910.00 for Building and plumbing fee

Could you please send us a Tax Invoice

Yours faithfully
APEX HOMES LTD



R K Potter
Managing Director

Sewerage condition!

LATERAL STABILITY.

Wind Load:
 $V_1 = 50 \text{ m/sec}$

$$S_1 = 1.1$$

$$S_2 = .65$$

$$\therefore V_s = 35.8 \text{ m/sec.}$$

$$q = .79 \text{ kPa.}$$

Lateral load.

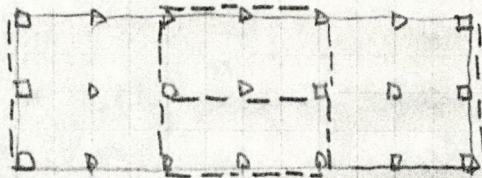
transverse. 13.5 m

$$M_L = .79 \times 1.5 \times 5.8 \times 13.5 = 62 \text{ kN.}$$

longitudinal. 6.0 m.

$$M_L = .79 \times 1.5 \times 5.0 \times 6 = 36 \text{ kN.}$$

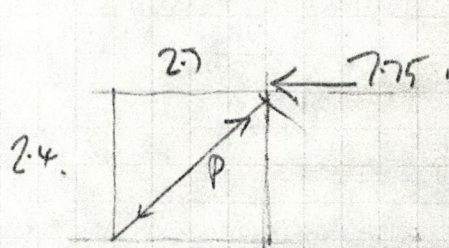
Bracing:



$$62/8 = 7.75 \text{ kN}$$

$$36/6 = 6 \text{ kN.}$$

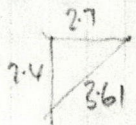
Brace design



Compr. force.

$$P = 7.75 \times \frac{3.61}{2.7} = 10.4 \text{ kN.}$$

$$\tan 100 \times 75.$$



$$\therefore \frac{P}{A} = \frac{10.4 \times 10^3}{94 \times 70} = 1.58 \text{ Mpa.}$$

$$L/\lambda = \frac{3610}{70} = 51$$

$$\therefore f_c = 1.5 \times .15 \times 7.1 = 1.6 \text{ Mpa}$$

∴ OK.

Connection use multi-brace
15 Nails per end.

Check uplift.

$$P_{up} = 7.75 \times 2.4 / 2.7 = 6.9 \text{ kN.}$$

Axial on

roof $(.3 \times 5.8 \times 2) = 1.74$

floor $.5 \times 1.8 \times 2 = 1.1$

wall $.25 \times 5 \times 2 = 2.5$

ceiling $.25$

footing $(.35/2)^2 \times \pi \times 25 \times .6 = 1.44$

friction $.35/2 \times \pi \times 10 \times .6 = 3.3$

10.3 kN.

For 350 ϕ footing
600 embedment.

F.O.S. against uplift. $= \frac{10.3}{6.9} = 1.5 \therefore \text{OK.}$

Check max vertical loading.

D + (L + W).

w 6.9

L 1.74 + 1.1 + 2.5 + 1.7 = 7.0

u 3.3

17.2 kN. / 1.33 = 12.9 kN.

Base capacity.

100 kpa

10 kpa friction.

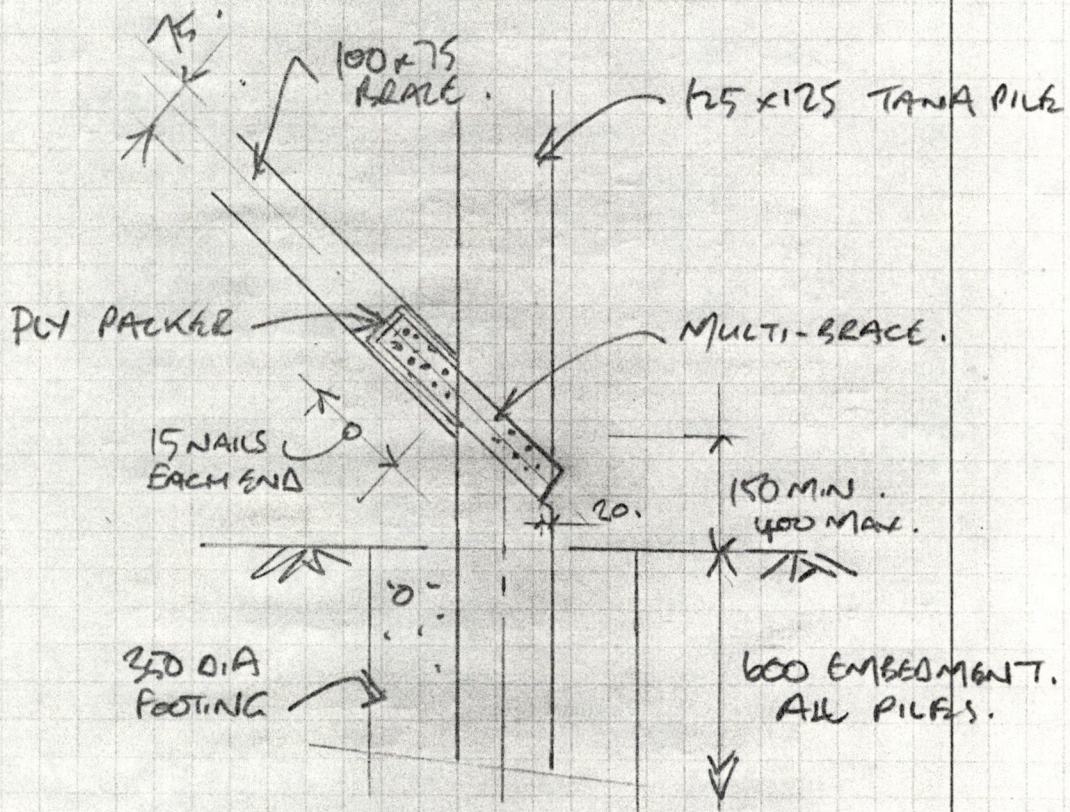
Capacity $(.35/2)^2 \times \pi \times 100 = 9.6$

friction $.35/2 \times \pi \times .6 \times 10 = 3.3$

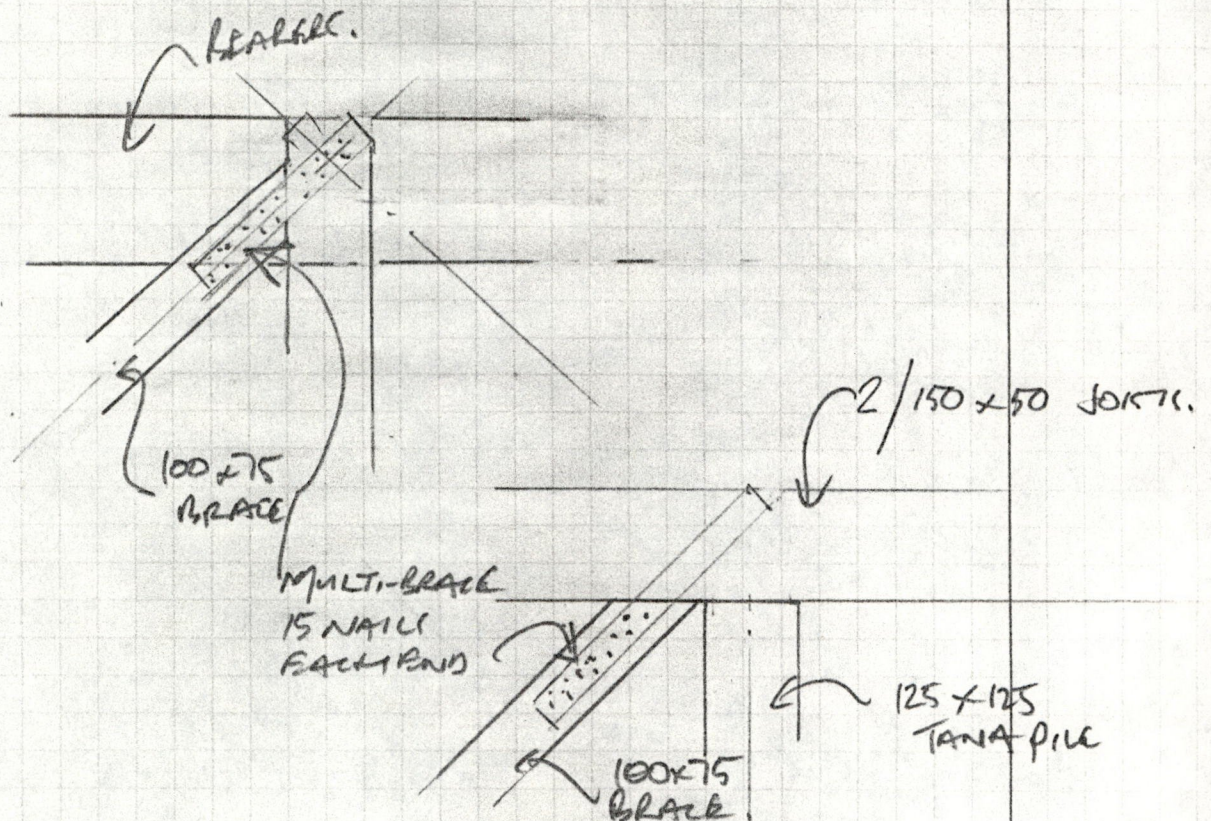
12.9 kN.

$\therefore \text{OK.}$

[Signature]



TYPICAL BRACED PILE DETAILS.



LATERAL STABILITY.

Wind load:

$V_1 = 50 \text{ m/sec}$

$S_1 = 1.1$
 $S_2 = .65$

$\therefore V_s = 35.8 \text{ m/sec}$

$q = .79 \text{ kpa}$

Lateral load.

transverse 13.5 m

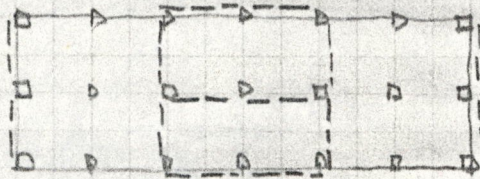
$M_L = .79 \times 1.5 \times 5.8 \times 13.5 = 62 \text{ kN}$

longitudinal 6.0 m

$M_L = .79 \times 1.5 \times 5.0 \times 6 = 36 \text{ kN}$

HOKIANGA
15 AUG 1989
COUNTY COUNCIL

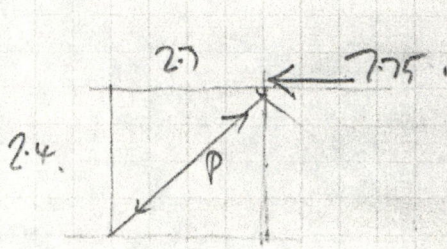
Bracing:



$62/8 = 7.75 \text{ kN}$

$36/6 = 6 \text{ kN}$

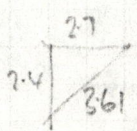
Brace design



Compr. force.

$P = 7.75 \times \frac{3.61}{2.7} = 10.4 \text{ kN}$

try 100 x 75.



$\therefore \frac{P}{A} = \frac{10.4 \times 10^3}{94 \times 70} = 1.58 \text{ Mpa}$

$\frac{L}{i} = \frac{3610}{70} = 51$

$\therefore f_c = 1.5 \times .15 \times 7.1 = 1.6 \text{ Mpa}$

$\therefore \text{OK}$

Connection use multi-brace
- 15 Nails per end.

Check uplift.

$$P_{up} = 7.75 \times 2.4 / 2.7 = 6.9 \text{ kN.}$$

Axial m.

roof $(.3 \times 5.8 \times 2) = 1.74$

floor $.5 \times 1.8 \times 2 = 1.1$

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footing $(.35/2)^2 \times \pi \times 25 \times 6 = 1.44$

friction $.35/2 \times \pi \times 10 \times 6 = 3.3$

10.3 kN.

For 350 ϕ footing
600 embedment.

$$F.O.S. \text{ against uplift} = \frac{10.3}{6.9} = 1.5 \therefore \text{OK.}$$

Check max vertical loading.

D + C_r + W.

ul 6.9

m $1.74 + 1.1 + 2.5 + 1.7 = 7.0$

u $1.5 \times 1.8 = 3.3$

17.2 kN. / 1.33 = 12.9 kN.

Base capacity.

100 kpa

10 kpa friction.

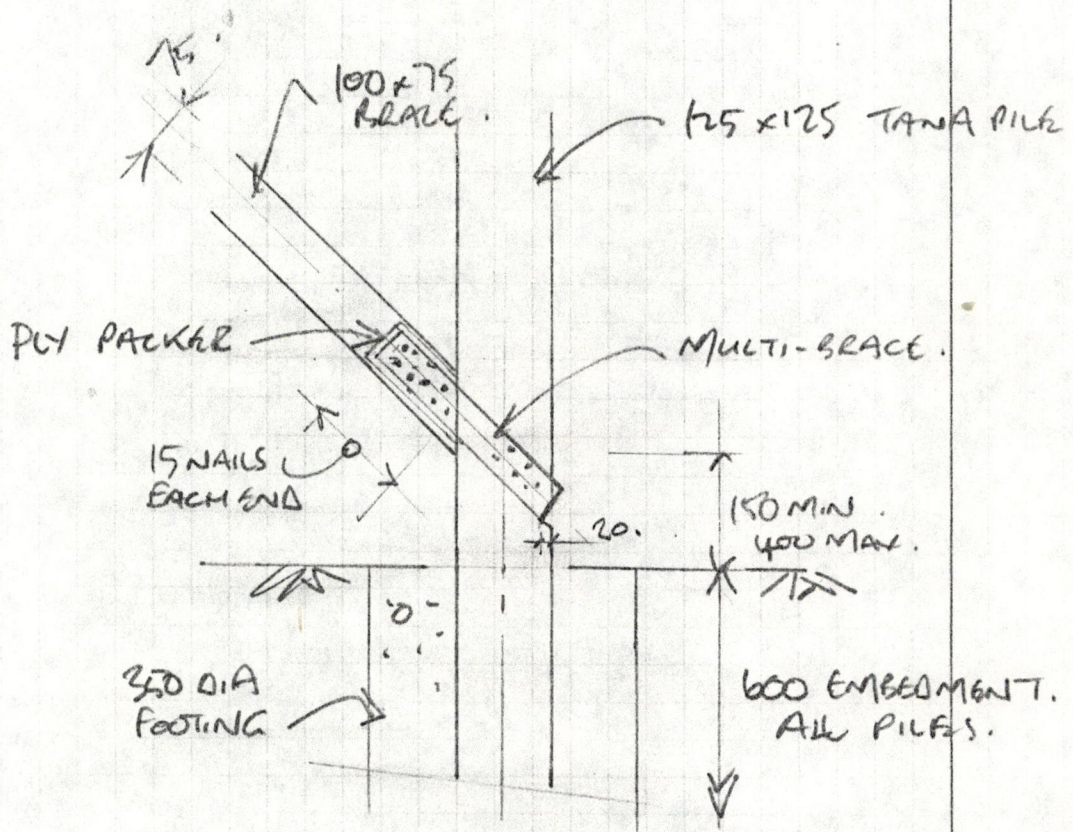
bearing $(.35/2)^2 \times \pi \times 100 = 9.6$

friction $.35/2 \times \pi \times 6 \times 10 = 3.3$

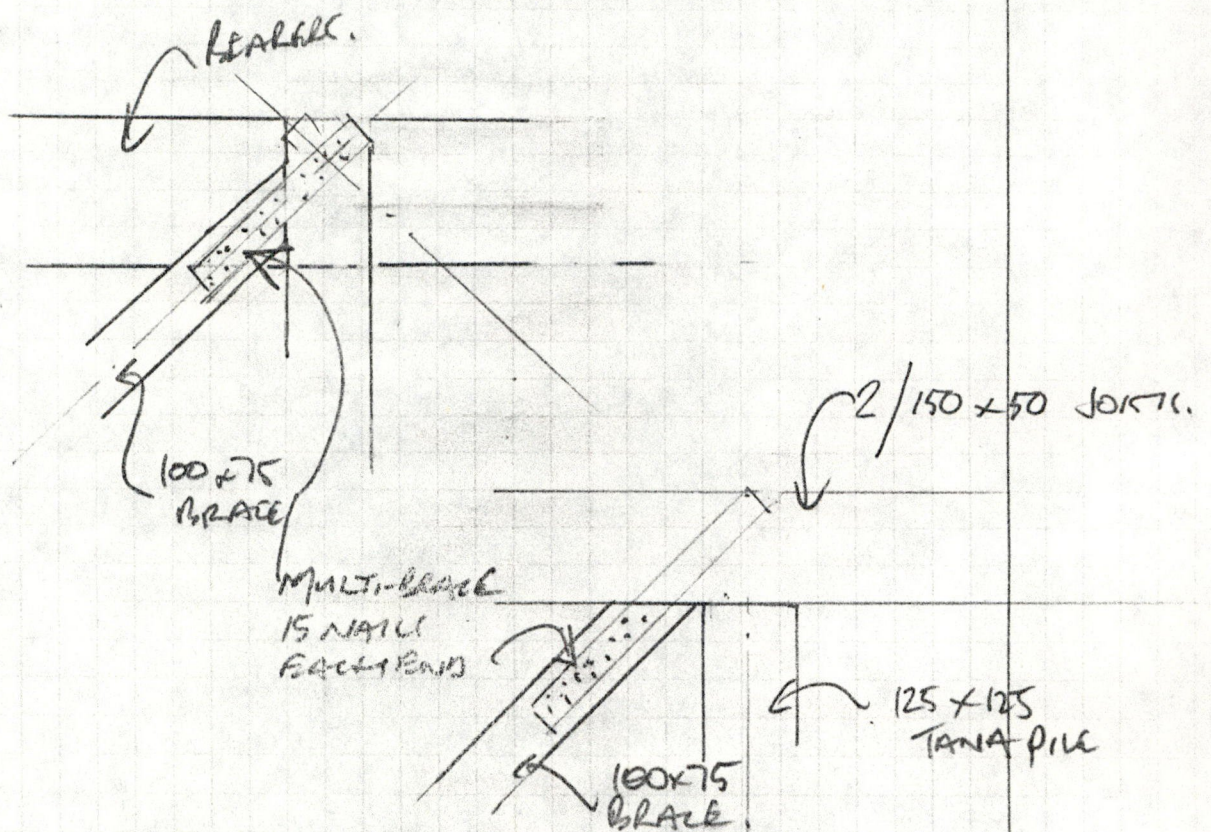
12.9 kN.

\therefore OK.

Jama.



TYPICAL BRACED PILE DETAILS.



HOKIANGA COUNTY COUNCIL

P.O. BOX 3 RAWENE PHONE 829

Application for Building Permit

TO THE BUILDING INSPECTOR,

Sir,

I hereby make application to erect/re-erect/extend/alter/repair the building(s) according to the site plan, detailed plans, elevations, cross sections and specifications deposited herewith in duplicate.

Particulars of the land and buildings are:—

OWNER Name: APEX HOMES LTD
Postal Address: P.O. BOX 271 WHANGAREI Phone: 484 422
BUILDER Name: APEX HOMES LTD
Postal Address: P.O. BOX 271 WHANGAREI Phone: 484 422

PREVIOUS OWNER if purchased within last 12 months:.....

EXISTING BUILDINGS ON SITE: NIL

NATURE OF PROPOSED BUILDING WORK: TWO PRIVATE 3 BEDROOM DWELLINGS
e.g. additions to Dwelling, Bedroom, Lounge extensions, etc.

VALUATION No.: (from rate demand)..... **LAND ZONING:**.....

LEGAL DESCRIPTION OF SITE: (from rate demand or title deeds) LOT 102,

TOWNSHIP RAWENE

Road or Street: MARINER STREET Town or Locality: RAWENE

AREA OF SITE:..... Hectares 1242 Square Metres

NATURE OF SOIL: (rock, clay, sand, loam, etc.) LOAM

FLOOR AREA: (proposed work — square metres).

	Basement	Ground floor	Other floors	Total
Main Building	<u>70.2m²</u>	<u>79.15m</u>	.....	<u>149.35m²</u>
Accessory Buildings	.....	.....	.....	.....

ESTIMATED VALUE OF WORK:

Main Buildings (excluding plumbing and drainage)	\$ <u>102,661-00</u>
Accessory Buildings (excluding plumbing and drainage)	\$ <u>6,250</u>
Plumbing and drainage	\$ <u>12,482-00</u>
Total Value of Work	\$ <u>115,143-00</u>

CERTIFICATE: I hereby certify that the above information is correct in every respect and do hereby agree to abide by all provisions of the Hokianga County Council by-laws governing and regulating all matters the subject of the foregoing.

Signature of Applicant: [Signature] PP. APEX HOMES LTD

Date: 25/5/89

FOR OFFICE USE ONLY

FEES:

Building Permit	\$ <u>253-00</u>	Receipt No.	Date.....	Permit.....
Building Research Levy	\$ <u>58-00</u>	Receipt No.	Date.....	
Plumbing Permit	\$ <u>125</u>	Receipt No.	Date.....	Permit.....
Drainage Permit	\$	Receipt No.	Date.....	Permit.....

INSPECTIONS: Total Fee \$.....

Site	Date	.....
Footing	Date	.....
Prelining	Date	.....
Plumbing	Date	.....
Drainage	Date	.....
Completion	Date	.....

SCALE OF FEES

(effective from 1st October, 1986)

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

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

PLEASE NOTE

BUILDING RESEARCH LEVY FEE

In addition to the fees below there will also be payable a Building Research Levy in accordance with the Building Research Levy Act 1973 which is set at \$1.00 in each \$1,000 or part thereof of the value of each Building Permit issued. Permits for work of a value less than \$10,000 are exempted.

Estimated value of work (including GST):

Up to—\$800	\$ 33.00
\$ 801-\$1000	\$ 36.00
\$ 1001-\$1200	\$ 40.00
\$ 1201-\$1400	\$ 43.00
\$ 1401-\$1600	\$ 48.00
\$ 1601-\$1800	\$ 52.00
\$ 1801-\$2000	\$ 58.00
\$ 2001-\$2500	\$ 63.00
\$ 2501-\$3000	\$ 70.00
\$ 3001-\$3500	\$ 77.00
\$ 3501-\$4000	\$ 84.00
\$ 4001-\$5000	\$ 92.00
\$ 5001-\$6000	\$106.00
\$ 6001-\$7000	\$121.00
\$ 7001-\$8000	\$136.00
\$ 8001-\$9000	\$150.00
\$ 9001-\$10,000	\$165.00
\$ 10,001-\$12,000	\$173.00
\$ 12,001-\$14,000	\$181.00
\$ 14,001-\$16,000	\$189.00
\$ 16,001-\$18,000	\$196.00
\$ 18,001-\$20,000	\$204.00
\$ 20,001-\$25,000	\$212.00
\$ 25,001-\$30,000	\$219.00
\$ 30,001-\$35,000	\$227.00
\$ 35,001-\$40,000	\$231.00
\$ 40,001-\$50,000	\$242.00
\$ 50,001-\$60,000	\$253.00
\$ 60,001-\$70,000	\$270.00
\$ 70,001-\$80,000	\$286.00
\$ 80,001-\$90,000	\$303.00
\$ 90,001-\$100,000	\$319.00
\$100,001-\$120,000	\$330.00
\$120,001-\$140,000	\$341.00
\$140,001-\$160,000	\$352.00
\$160,001-\$180,000	\$363.00
\$180,001-\$200,000	\$374.00
\$200,001-\$240,000	\$385.00
\$240,001-\$280,000	\$396.00

FEES PAYABLE FOR SPECIAL DUTIES

For inspection required in the case of proposed structural alterations before plans are submitted for approval	\$33.00
For inspecting old timber before re-using the same in a new building	\$33.00
For searching drawings and other documents after completion of work	\$27.50
For inspecting and report on existing buildings within the County for resiting	\$38.50
For inspecting and report on existing buildings outside of County	(Negotiable with Council)
For any inspection that may be deemed necessary in connection with any building or work in respect of which no fees have otherwise been paid	\$33.00
For application to Council for dispensation from Planning Scheme (bulk and location requirements)	\$33.00
Deposit against damage to street, road or footpath crossings during building construction in areas other than those zoned Rural (refundable)	\$1,100.00
For protective hoardings around building sites	\$22.00

GENERAL INFORMATION

1. The following **MUST** accompany this application:

PLANS AND SPECIFICATIONS TO BE SUBMITTED IN DUPLICATE (in ink or on print paper)

including — Site Plans —

- (a) Ground plans of existing and proposed work showing position of all sanitary fittings and names and sizes of various rooms.
Ground plans, front and side elevations to scale of 50 millimetres = 1 metre or 100 millimetres = 1 metre.
- (b) Where the building is on a sloping site the correct height of foundations must be shown.
- (c) Front and side elevations.
- (d) Cross section showing framing with bracing.
- (e) A report and calculations showing how the design complies with the By-laws in the case of buildings requiring specific design. Plans to be signed by designer and their qualifications.
- (f) Such drawings and information in detail as may be necessary to indicate that the proposed building or other work or change of use of land or buildings will comply in all respects with the District Planning Scheme and with the By-laws.
- (g) Where a building requires Plumbing and Drainage work a separate Application Form must be filled in and fee paid.
- (h) Application for water connection where water supplies are available.
- (i) Application for sewer connection where a sewer reticulation scheme is available.

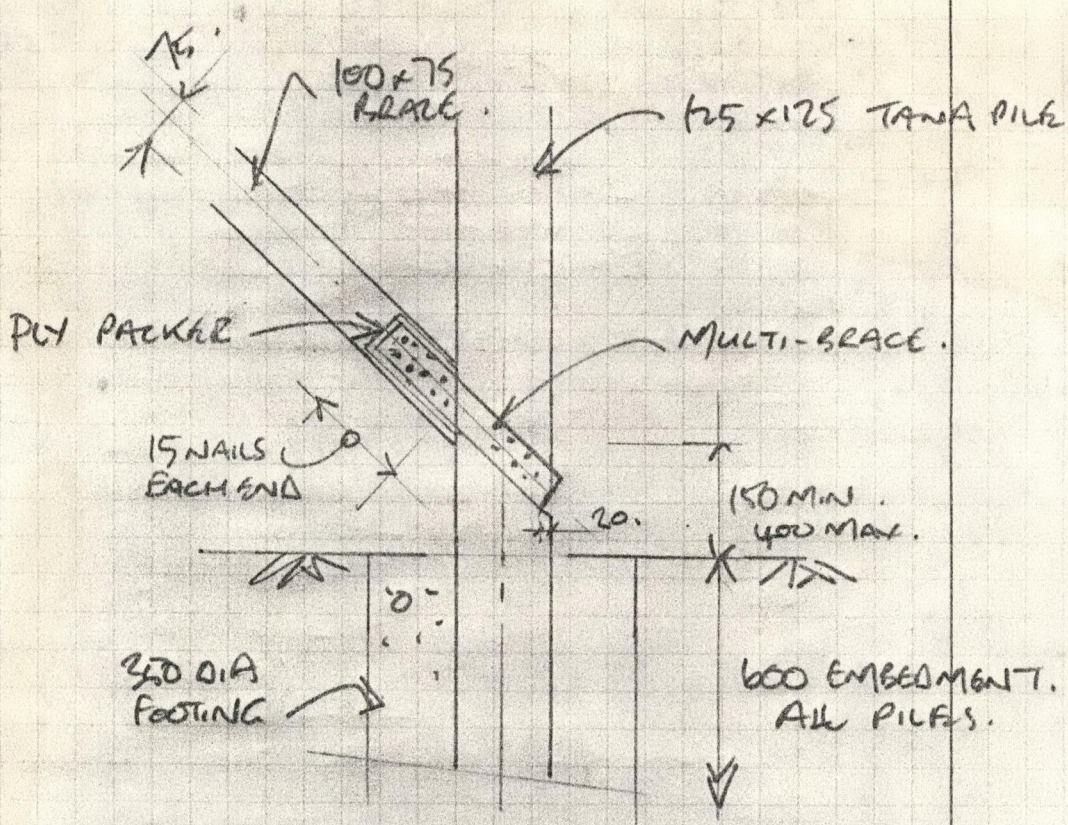
2. FEES for dispensation from the planning scheme (if required) must accompany the application but permit fees may be forwarded later on advice of availability of permit and the amount of fees required.

3. BUILDING INSPECTOR office hours are normally:

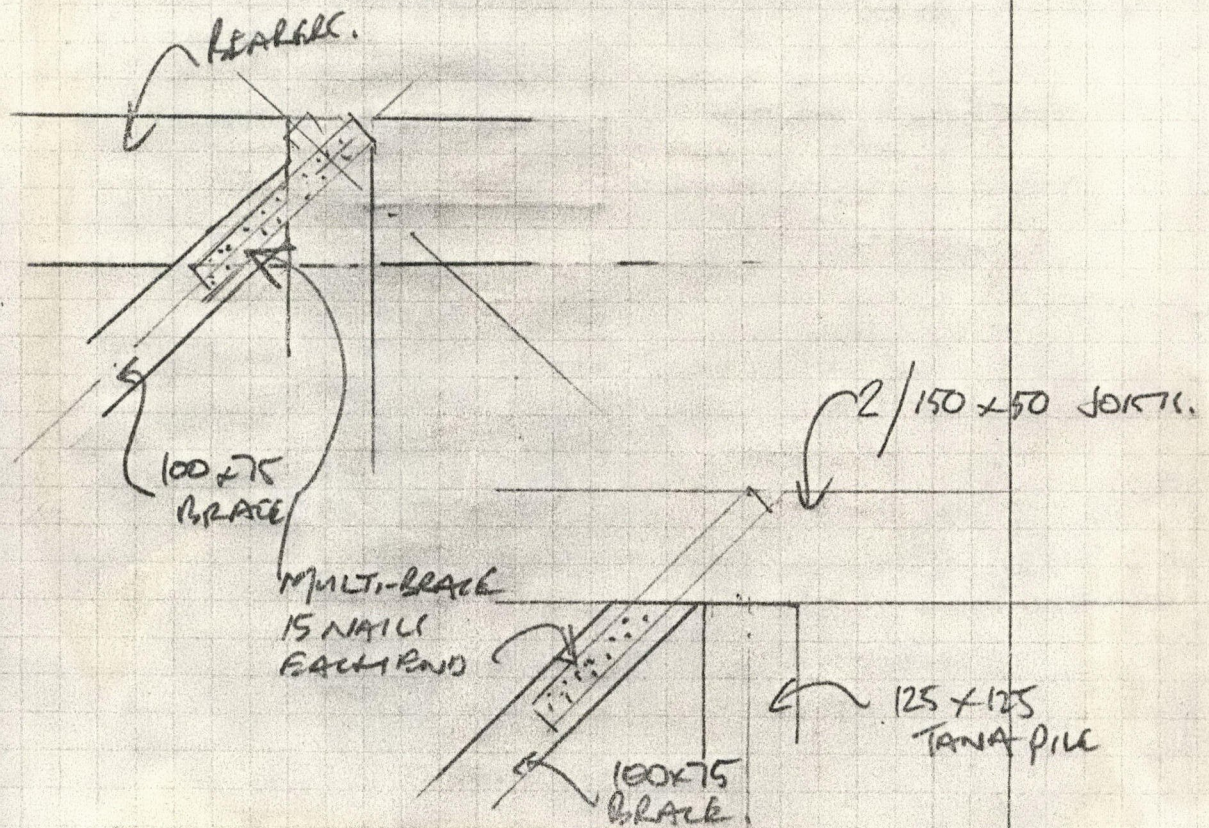
**Monday, Wednesday, Friday 8.00 a.m. to 10.00 a.m.
or by appointment.**

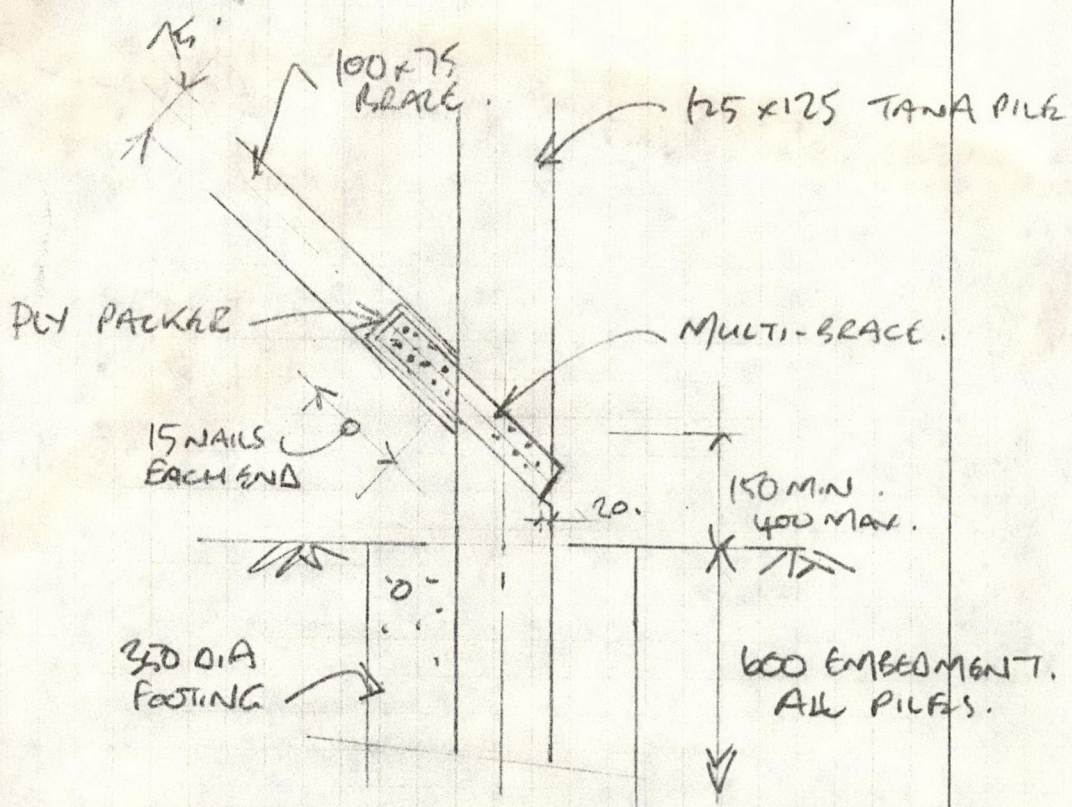
SITE PLAN MUST SHOW (in ink)*;

1. Position of existing buildings (draw in red).
2. Position of building proposed under this application (drawn in blue).
3. Position of garage and driveways whether required now or not (including existing and proposed crossings).
4. Distances of each building from boundary lines. To avoid delay in processing your building permit, please note that **ALL** distances are required from boundaries. The size of the property does not eliminate the need for provision of required distances.
5. Boundary lines shown thus: — — — — — — — — — —
6. Any Building Line Restrictions imposed on land.
7. Site plan must be drawn accurately to scale.
8. Deviation from site plans is not permitted without written approval of the Council.



TYPICAL BRACED PILE DETAILS.





TYPICAL BRACED PILE DETAILS.

