Barkes Corner, Greerton, Tauranga.
Private Bag 12803, Tauranga.
Telephone: 07 571 8008. Facsimile 07 577 9820
Offices at Katikati and Te Puke

WESTERN BAY OF PLENTY DISTRICT COUNCIL

INSPECTIONS

This building consent is approved subject to inspections being requested.

PLEASE GIVE PRIOR NOTICE OF AT LEAST ONE WORKING DAY WHEN REQUESTING INSPECTIONS. QUOTE THE CONSENT NUMBER.

Keep this copy of plans and specifications on site at times of all inspections.

CALL FOR INSPECTIONS FOR ALL ITEMS TICKED.

1. **FOOTINGS** ☑
   We want to see the excavations and ground before any concrete is poured.
2. **FOUNDATIONS** ☐
   We want to see the reinforcing in place before concrete is poured.
3. **CONCRETE SLABS** ☐
   We want to see the D.P.C. basecourse, reinforcing and underfloor services.
4. **TIMBER FLOORS** ☐
   We want to see the piles, sub-floor bracing and connectors.
5. **CONCRETE BLOCKWORK** ☐
   We want to see the reinforcing in cells and bond beams before concrete is poured.
6. **PRELINING INSPECTION** ☐
   We want to see all framing, bracing, connectors, vapour barriers, insulation, timber moisture.
7. **BRICK VENEER** ☐
   We want to see the walls when they are at about half height to inspect cavities and ties.
8. **STUCCO OR PLASTER FINISH** ☐
   We want to see the under surface and reinforcing prior to application of the plaster.
   the plaster.
9. **PLUMBING INSPECTION** ☐
   We want to see all plumbing and water pipework under test before it is enclosed.
   Can be combined with the Prelining inspection.
10. **FIREPLACE OR SOLID FUEL HEATERS** ☐
    We want to see the foundations, seismic restraint, clearances, flue and liners, and ceiling plate.
11. **DRAINAGE (Foulwater and Stormwater)** ☑
    We want to see all drainage work under test before it is closed in.
12. **SEPTIC TANK AND EFFLUENT TRENCH** ☑
    We want to see the tank before it is filled with liquid and effluent line before covering.
13. **FINAL** ☑
    We want to make a final inspection before issuing a code compliance certificate.

KEEP DOGS TIED UP WHEN INSPECTOR CALLS

Written Agreement For Repairs to Resited Building

I agree to carry out the following work within 8 weeks of the building being resited.

To repair any damage arising from removal and resiting including making good or reinstating external chimneys.

To redecorate the kitchen, bathroom and laundry.

Marc Borland

Marc Borland

James Hardie Building Products

WALL BRACING CALCULATION SHEET A (for use with NZS 3604:1990)

Name: M. Borland

Site Address: City/Town or District: 122 No 2 Rd R.D 2 Te Puke

Street & Number:

or Lot and D.P. Number: Lot 1 DPS 10684

BRACING UNIT DESIGN INFORMATION FROM NZS 3604:1990 Note: All tables and figures referred to are those in NZS 3604:1990.

1. EARTHQUAKE DESIGN

- Site Earthquake Zone A (B) C from fig. 2.2
- BRACING UNITS FOR WALL ABOVE FOUNDATION FOR EARTHQUAKE (Refer table 6.1)

Location, cladding type and average roof slope		Minimum number of bracing units per m² In earthquake zones		
		A	B	C
Storey Location	Single Storey			
	Top storey of two storey		3	
	Bottom storey of two storey			
Storey in roof space	Yes / No			
Wall cladding weight	Light wall / Heavy wall			
Roof cladding weight	Light roof / Heavy roof			
Average roof slope	0° - 25° / 25° - 45° / 45° - 60° / 0° - 60°			

∴ 3 x 129.687 = 648.435 E = BUs/m²

2. WIND DESIGN

- Site wind region: (R1-) R2- from fig 2.3
- Ground roughness: urban- (rural-) open
- Site exposure: (sheltered-) exposed-
- Topographic classification: (T1-) T2- T3- T4- T5- from table 2.4
- BRACING UNITS FOR WALLS ABOVE FOUNDATION STRUCTURES FOR WIND (refer table 6.2A &6.2B)

Wind Zone from table 2.4	Low / medium / high / very high / specific design	Minimum number of bracing units per metre of building length for wind on wall and roof elevations
Building height to apex	m	W across = BUs/metre length wall
Roof height above eaves	m	
Stud height	m	
Storey Location	Single Storey	W along = BUs/metre length wall
	Top storey of two Storey	
	Bottom storey of two Storey	

3. EARTHQUAKE AND WIND BRACING CALCULATIONS BUILDING LENGTH: BL 13.9 m, BUILDING WIDTH: BW 9.33 m

Note1: When the average roof pitch is over 25 degrees, use the eaves length and width to determine BL and BW.

Note 2 : For heavy roofs use the plan at eaves level to determine GPA.

GROSS BUILDING PLAN AREA GPA 129.687 m²

BUs required Earthquake

From 1 above Earthquake design

E= _____ BUs/m²

Note: For a room in the roof space use E + 1

Total Earthquake load

EQ ALONG and EQ ACROSS

E x GPA BUs = 129.687 x 5 = 648.435 BUs

BUs required Wind

From 2 above Wind design

W across = 60 x 13.9 = 834 BUs/m

W along = 60 x 9.33 = 559.8 BUs/m

Total wind load.

W ACROSS:

W across x BL = _____ BUs = 834

W ALONG:

W along x BW = _____ BUs = 559.8

WALL BRACING CALCULATION SHEET B (for use with NZS 3604:1990)

ALONG

WALL OR BRACING LINE			BRACING ELEMENTS PROVIDED			EARTHQUAKE			WIND		
1	2	3	A	B	6	7EQ	8EQ	9EQ	10W	11W	12W
Line Label	Minimum BU's Required Wind	Minimum Bu's Required Equake	Bracing Element Type: Earth Quake	Bracing Element Type: Wind	Length Element (m) L	Rating BUs from JH Tables EQ/m	Rating BUs required EQ/m	Bu's Achieved (BU x L) EQ	Rating BUs from JH Tables W/m	Rating BUs required W/m	Bu's Achieved (BU x L) W
A	187	217	280	640	9.33						
B	187	217	280	640	9.33						
C	187	217	280	640	9.33						
D											
E											
Total metres Bracing =											

From sheet A: W required	TOTALS ACHIEVED EARTHQUAKE	WIND
EQ required	TOTALS REQUIRED EARTHQUAKE (from sheet A)	WIND

*If Wreq/EQreq is 1 or less complete EQ column only. If Wreq/EQreq is 1.5 or more complete W column only. Otherwise complete both W and EQ.

ACROSS

WALL OR BRACING LINE			BRACING ELEMENTS PROVIDED			EARTHQUAKE			WIND		
1	2	3	A	B	6	7EQ	8EQ	9EQ	10W	11W	12W
Line Label	Minimum BU's Required Wind	Minimum Bu's Required Equake	Bracing Element Type: Earth Quake	Bracing Element Type: Wind	Length Element (m) L	Rating BUs from JH Tables EQ/m	Rating BUs required EQ/m	Bu's Achieved (BU x L) EQ	Rating BUs from JH Tables W/m	Rating BUs required W/m	Bu's Achieved (BU x L) W
M	209	163	280	640	13.9						
N	209	163	280	640	13.9						
O	209	163	280	640	13.9						
P	209	163	280	640	13.9.						
Q											
R											
Total metres Bracing =											

From sheet A: W required	TOTALS ACHIEVED EARTHQUAKE	WIND
EQ required	TOTALS REQUIRED EARTHQUAKE (from sheet A)	WIND

*If Wreq/EQreq is 1 or less complete EQ column only. If Wreq/EQreq is 1.5 or more complete W column only. Otherwise complete both W and EQ.

James Hardie Building Products

INSTRUCTIONS FOR SUBFLOOR AND WALL BRACING SHEET A

Note: All tables and figures referred to are those in NZS 3604:1990.

Name: Name of building permit (or building consent) applicant.....

Site Address: Street address of site including city, town or LOT and D.P. number. .....

.....

BOX 1

- Refer to Fig. 2.2 and decide earthquake zone. Circle A, B or C.
- Go through headings in Box 1 and circle appropriate storey location, storey in roof space, wall cladding weight, roof cladding weight and average roof space for your building.
- Refer to Table 4.7A and choose and write in E in BUs/m^2 for subfloor.
- Refer to Table 6.1 and choose and write in E in BUs/m^2 for wall bracing.

HELPFUL NOTES FOR BOX 1

ROOF WEIGHT:	Refer to clause 1.2.9 page 18 for definition of "light" and "heavy" roof. A "light" roof with sarking over 30mm thick must be taken as a "heavy" roof.
AVERAGE ROOF PITCH:	For roofs with unequal pitches use the average pitch in degrees.
TYPE OF CLADDING:	"Heavy" cladding refers to brick, block or stone veneer cladding. All other types are "light" cladding. Refer to clause 1.2.9 page 18 for definitions.
STOREY IN ROOF SPACE:	When up to 50% of the roof space is developed add 1 B.U. to the value in Table 4.7A and Table 6.1 (refer clause 4.6.3.2 and 6.3.2.5).

BOX 2

- Refer to Fig. 2.3 and decide wind region. Circle R1 or R2.
- Refer to Fig. 2.4 and 2.5, decide and circle Ground roughness, site exposure and topographic classification.
- Refer again to Table 2.4 with the above information and decide and circle the wind zone.
- Decide and write in Box 2 the building height to apex, roof height above eaves and stud height.
- Refer to Table 4.7B and decide and write in values for W across  and wind along 
- Refer to Table 6.2A and 6.2B and write in values for wind across  and wind along 

HELPFUL NOTES FOR BOX 2

BUILDING HEIGHT TO APEX:	This is measured from the ridge to the lowest ground adjacent to the foundations. See Fig. 1.1.
ROOF HEIGHT (above eaves):	Vertical dimension between the ridge and roof eaves.
STOREY LOCATION:	Refer to Fig. 1.1.

BOX 3

- Write in building length BL and building width BW.
- Work out Gross Building Plan Area.

NOTE

ROOF or BUILDING LENGTH (BL) }
ROOF or BUILDING WIDTH (BW) }
GROSS ROOF or BUILDING PLAN AREA (GPA) }

Refer to clauses 4.6.3 and 6.3.2.1 to determine whether roof or building dimensions are to be used.

- Work out and write down Earthquake along and across E x GPA in BUs.
- Work out and write down wind along and across W across x BL and W along x BW in BUs.

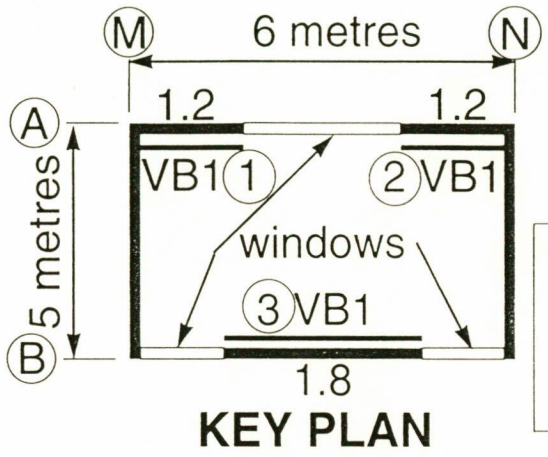
James Hardie Building Products

INSTRUCTIONS FOR SUBFLOOR AND WALL BRACING SHEET B

ALONG FIRST

- Use the line labels and mark these as grid lines on the plans for reference lines. (Refer Key Plan).
- Split up the total Earthquake and Wind values from Box 3 into the proportion of the number and lengths of bracing panels available on the plan. (Note: This requires judgement and trial to obtain the best solution).

EXAMPLE (WALL BRACING)



KEY PLAN

Use Earthquake along
from Box 3 using E = 5 BUs/m²
E x GPA = 5 x 6 x 5 (refer Key Plan)
= 150 BUs

Total bracing panel lengths available from KEYPLAN for grids (A) and (B).

= 1.200 + 1.200 + 1.800
= 4.2 metres

Therefore BUs for bracing panel (1)
= 150 x 1.2 = 42.9 BUs
4.2

Therefore BUs for bracing panel (2)
= 150 x 1.2 = 42.9 BUs
4.2

Therefore BUs for bracing panel (3)
= 150 x 1.8 = 64.3 BUs
4.2

Now enter left hand side of calculation sheet B.

WALL BRACING CALCULATION SHEET B

(For use with NZS 3604:1990)

ALONG

WALL OR BRACING LINE			BRACING ELEMENTS PROVIDED			EARTHQUAKE			WIND		
1	2	3	4	5	6	7EQ	8EQ	9EQ	10W	11W	12W
Line Label	Minimum BU's Required Wind	Minimum Bu's Required Equake	Bracing Element No.	Bracing Type	Length Element (m) L	Rating BUs from JH Tables EQ/m	Bu's required EQ/m	Bu's Achieved (BU x L) EQ	Rating BUs from JH Tables W/m	Rating BUs required W/m	Bu's Achieved (BU x L) W
A		150/4.2 x 1.2 = 43	(1)	VB1	1.2	60	43	60 x 1.2 = 72			
		150/4.2 x 1.2 = 43	(2)	VB1	1.2	60	43	60 x 1.2 = 72			
B		150/4.2 x 1.8 = 64	(3)	VB1	1.8	60	64	60 x 1.8 = 108			

Now enter right hand side of calculation sheet B with BUs achieved.

- Check for BUs achieved by referring to James Hardie bracing tables. It is a good idea to do an independent check before entering final figures on the Calculation Sheet B x with BUs achieved.

  Refer to James Villaboard Bracing Systems for values used in these examples.

- Do similar calculations across for Earthquake and then repeat a similar calculation along and across for wind.