

## EARTH BUILDINGS NOT REQUIRING SPECIFIC DESIGN

### AMENDMENT No. 1

December 1999

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#### REVISED TEXT

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#### EXPLANATORY NOTE

Amendment No. 1 provides for the updating of NZS 4299 to provide enhanced provisions for weather-proofing and to align with the foundation provisions of NZS 3604:1999. Some over-designed details are amended to be more economic.

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#### APPROVAL

Amendment No. 1 was approved on 30 November 1999 by the Standards Council to be an amendment to NZS 4299:1998.

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#### CONTENTS (page 1)

Under section 2 **add** new clause as follows:

2.10 Protection of earth walls from external moisture ..... 30

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**Add** new table as follows:

2.4 Exterior moisture protection for earth walls ..... 30

(Amendment No. 1, December 1999)

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#### C2.5.7 (page 27)

**Delete** existing clause C2.5.7 and **replace** with the following:

**C2.5.7**

*Eaves or gable verges are required by 2.10 to protect against external moisture penetration.*

(Amendment No. 1, December 1999)

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Add a new clause 2.10 (page 30)

## 2.10 Protection of earth walls from external moisture

### 2.10.1

Suitable protection from exterior moisture to all earth walls shall be provided by minimum eave and verge widths to all earth walls in accordance with table 2.4.

**Table 2.4 – Exterior moisture protection for earth walls**

Building wind zone (from table 2.1)	Ratio of eaves height to eaves width, $h:b$ (see figure 2.2)
L	4:1
M	8:3
H	3:2 (see clause 2.10.2)
VH	1:1

#### **C2.10.1**

*Walls that comply with table 2.2 may still be susceptible to problems from penetration of external moisture over time and these provisions ensure against this.*

*The ratios in table 2.4 are minimums and greater eaves widths may be specified. Lesser eaves widths combined with other weather protection measures such as fences, pergolas or other permanent landscaping features may also be possible in some cases by using specific design but this is outside the scope of this Standard.*

*NZS 3604 provides for eaves overhangs of up to 750 mm and cantilevered overhangs greater than this will require specific engineering design. Verandahs may be provided in accordance with NZS 3604 where an eaves width greater than 750 mm is required.*

### 2.10.2

In high wind zones the ratio may be reduced to 2:1 for earth walls not stabilized with cement or lime and that have open exposure and face northerly between north east and north west.

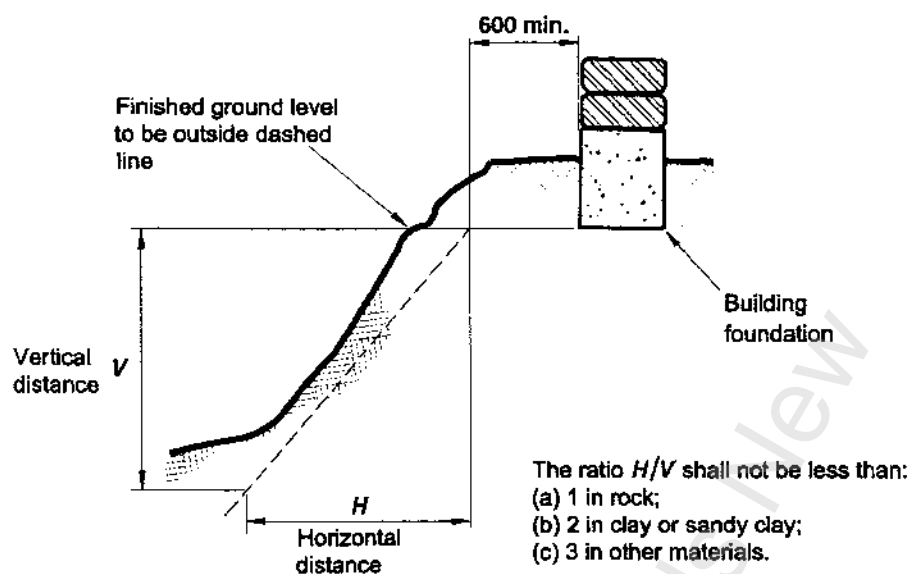
#### **C2.10.2**

*In the High Wind Zone, the improved waterproofing properties of clay surfaces, which are free to swell to form a waterproof layer, are recognized. When these materials get wet they have superior waterproofing properties compared to the more porous matrices formed by cement and lime stabilizers, especially when combined with the effect of the sun on the northern aspect in helping keep these walls dried out.*

(Amendment No. 1, December 1999)

Figure 3.1 (page 31)

Delete figure 3.1(A) and **substitute** the following:



(Amendment No. 1, December 1999)

### 3.1.2.1(c) (page 32)

Delete "3.2.2.2" and **substitute** "3.1.2.2".

(Amendment No. 1, December 1999)

### Figure 6.4 (page 70)

Delete the following note in two places:

10 kN capacity connector one side of each rafter (1.0 x 110 x 100 long nail-on plate folded into angle and nailed with 7 / 30 x 3.15 mm flat head galv. nails each flange)

and **substitute** in two places:

Fix rafter or joist to top plate with 4 / 100 x 3.75 skew nails or 2 / 100 x 3.75 nails and 2 wire dogs (either "C" dogs or "Z" dogs)

Fix rafter or joist to top plate with 4 / 100 x 3.75 skew nails or 2 / 100 x 3.75 nails and 2 wire dogs (either "C" dogs or "Z" dogs)

(Amendment No. 1, December 1999)

**Figure 6.5** (page 71)

On the top figure **delete** the following note:

10 kN capacity connector one side only as for gable end outrigger rafter

and **substitute**:

Fix rafter to  
top plate with  
4 / 100 x 3.75  
skew nails or  
2 / 100 x 3.75  
nails and 2 wire  
dogs (either "C"  
dogs or "Z" dogs)

(Amendment No. 1, December 1999)

**Figure 6.5** (page 71)

On the bottom figure **delete** the following note:

10 kN capacity connector one side of each rafter (1.0 x 110 x 100 long nail-on plate folded into angle and nailed with 7 / 30 x 3.15 mm flat head galv. nails each flange)

and **substitute**:

Fix rafter to top plate with  
4 / 100 x 3.75 skew nails  
or 2 / 100 x 3.75 nails and  
2 wire dogs (either "C"  
dogs or "Z" dogs)

(Amendment No. 1, December 1999)

**Table 8.2** (page 83)

**Add** an additional note under table 8.2:

4. Specific design is required where a lintel supporting a roof has a loaded dimension of greater than 6.0 m, that is, when the supported roof member spans divided by 2 plus the eaves overhang is greater than 6.0 m.

(Amendment No. 1, December 1999)

**Table 11.2** (page 103)

Number the original note as (1) and **add** an additional note (2) to table 11.2 as follows:

NOTE –

- (1) Refer to figure 8.5(A) for load case and definition of S.
- (2) Specific design is required where a lintel supporting a roof has a loaded dimension of greater than 6.0 m, that is, when the supported roof member spans divided by 2 plus the eaves overhang is greater than 6.0 m.

(Amendment No. 1, December 1999)