



Consulting Engineers Limited

27 March 1998

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ADDN
144 Hinecra St
PO Box
Rotorua
New Zealand
TELEPHONE
07 348 51
FAX
07 348 51

Resource Engineer
Rotorua District Council
Private Bag RO 3029
ROTORUA

COPY

from
PRINCE HAWLEY LTD.

Dear Sir,

RE: D. J. RUTHERFORD SUBDIVISION, WESTBROOK PLACE, ROTORUA
OUR REF: 10463

As requested we have carried out a subsoils investigation comprising four truck mounted boreholes, and four adjacent Scala Penetrometer tests on Lots 1 and 2 of this subdivision. The results of our tests are appended to this report.

The site subsoils appear to be reasonably variable above 1.9m at which depth a moist light brown silt with some root material was consistently found in all four test positions. Above this variable depth layers of pumiceous fill overlying a dark fine silt was generally found. Three of the four boreholes had layers of coarse pumice again of variable thickness and depths.

The Scala Penetrometer test results below about 0.5 metres were consistent with allowable bearing pressures of 70 KPa and better. This is reasonably consistent with the results of Scala Penetrometer testing carried out by Mr A. Morton of Cauldrey Martin & Co. at the time the original subdivision was formed in 1979. Those results indicated that bearing values in excess of 1.0 ton/ft sq. (107 KPa) were achievable in the fill placed on these lots.

Therefore, based on the above, in our opinion, the fill placed on Lots 1 and 2 is suitable for the erection of Light Timber Framed Buildings in compliance with NZS 3604 : 1990 provided the following -

- (a) The sites are not additionally filled more than 200mm above existing levels to provide a building platform.
- (b) All foundations are overexcavated to firmer subsoils at a depth of approximately 500mm below existing ground levels, and backfilled with thoroughly compacted hardfill material to normal founding level (300mm below ground level).

This should then, in our opinion, provide a suitable foundation to any proposed house on these sites.

DIRECTORS

E. Don Stotter
C.Eng., M.I.C.E.
M.I.P.E.N.Z
Reg. Engineer
John W. Kronast
B.E., M.I.P.E.N.Z
Reg. Engineer

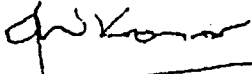
We note, however, that the above recommendations and opinions are based on information obtained from a limited number of test positions. The nature and continuity of the subsoils away from the test positions are inferred, but could vary from those assumed.

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We trust this provides the information you require at this time. Please contact the writer should you require any additional information or assistance with this matter.

Yours faithfully



J.W. Kronast

BSK CONSULTING ENGINEERS LTD

To: District Engineer
Rotorua District Council
Private Bag
ROTORUA

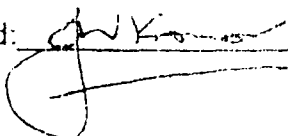
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STATEMENT OF PROFESSIONAL OPINION AS TO SUITABILITY OF LAND
FOR BUILDING DEVELOPMENT

Subdivision: Subdivision of Lot 9 DP8 27001
Owner / Developer: D. J. Rutherford
Location: Westbrook Place, Rotorua

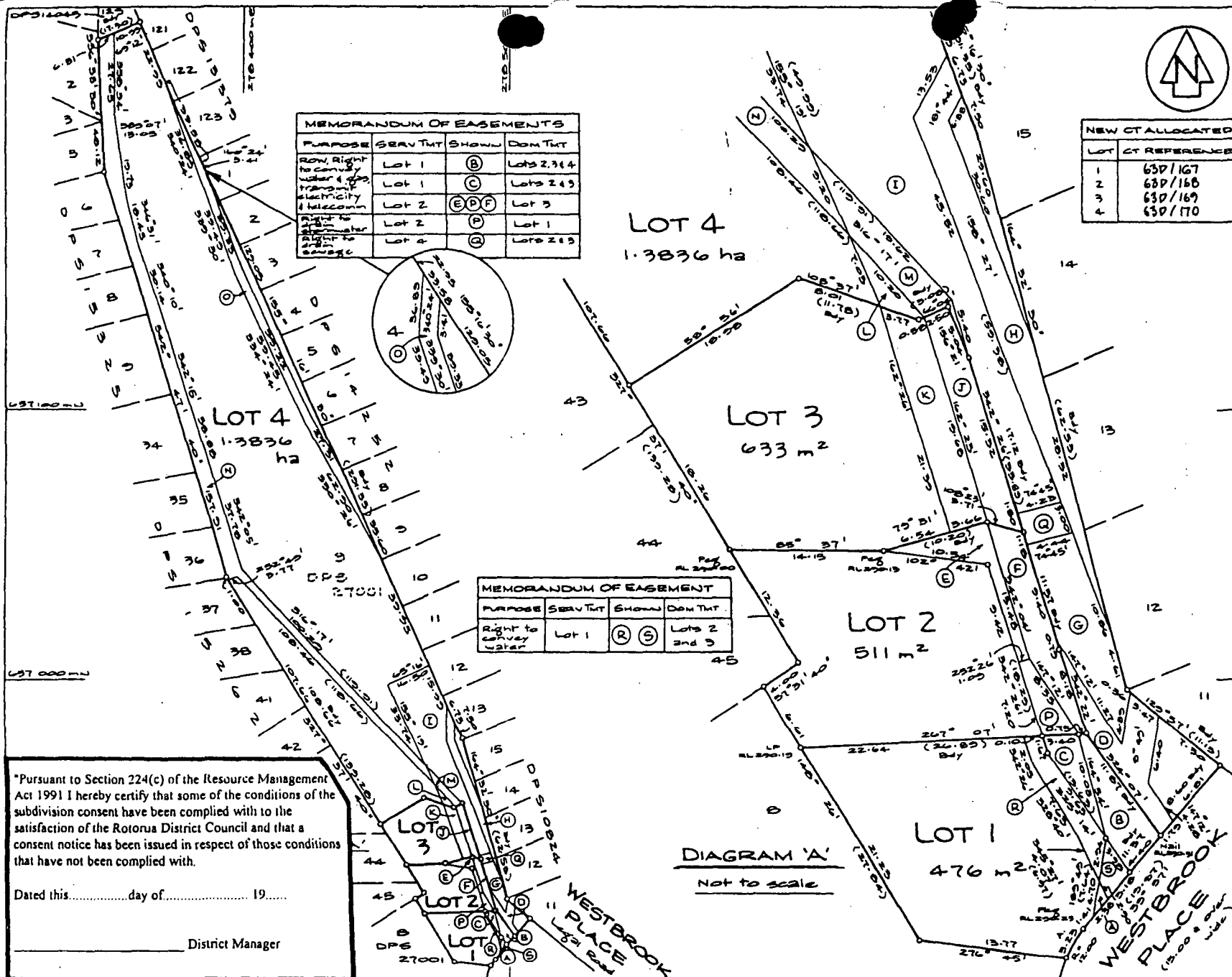
I, John William Kronast of BSK Consulting Engineers Ltd, 144 Hinemoa Street Rotorua, hereby confirm that -

- (1) I am a Registered Engineer experienced in the field of soils engineering and was retained by the owner as the Soils Engineer on the above subdivision.
- (2) The extent of my inspections and the results of all tests carried out are described in my report dated 27/3/98.
- (3) In my professional opinion, not to be construed as a guarantee, I certify that -
 - (a) The filled ground is suitable for the erection thereon of residential buildings not requiring specific design in terms of the New Zealand Building Act 1991, New Zealand Building Regulations 1992, and related documents providing that
 - i) Building sites are not built at more than 200mm above existing ground levels.
 - ii) All foundations are over excavated to firmer subsoils as noted in the above report
- (4) This professional opinion is furnished to the Council and the owner for their purposes alone on the express condition that it will not be relied upon by any other person and does not remove the necessity for the normal inspection of foundation conditions at the time of erection of any dwelling.

Signed: 

27 March 1998

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"Pursuant to Section 224(c) of the Resource Management Act 1991 I hereby certify that some of the conditions of the subdivision consent have been complied with to the satisfaction of the Rotorua District Council and that a consent notice has been issued in respect of those conditions that have not been complied with.

Dated this day of 19.....

District Manager

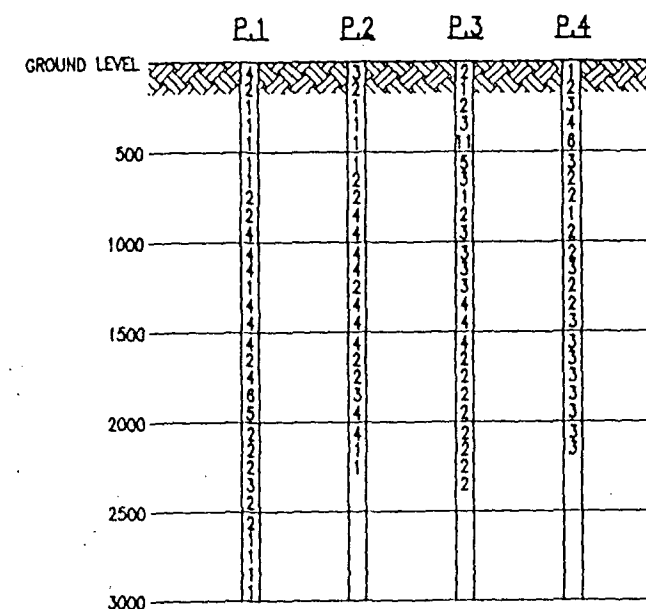
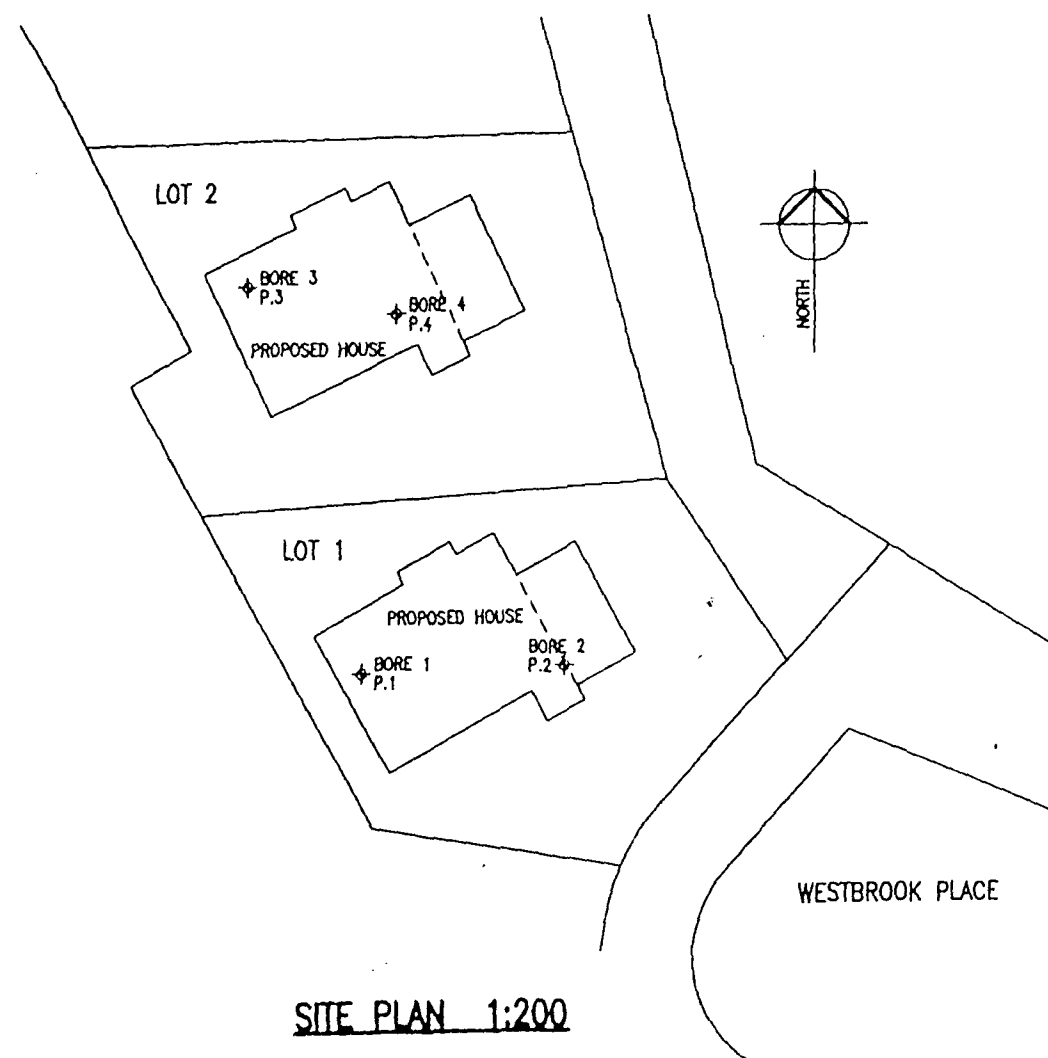
LAND DISTRICT SOUTH AUCKLAND
SURVEY BLK. & DIST. IV HOROHORO
NZMS 261 SHT 48.07
RECORD MAP No 45.08

LOTS 1-4 BEING SUBDIVISION OF
LOT 9 DPS27001.

TERRITORIAL AUTHORITY ROTORUA DISTRICT
Surveyed by PHIPPS HAWLEY LTD JP 4087
Scale 1:1000 Date MAR 1998

File
Received 27.9.99
DPS 81300

DPS 81300



SCALA PENETROMETER RESULTS (CM/BLOW)

