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Date: 26th July 2025

For the attention of Mr. S. Lambor

Dear Mr. Lambor,

Wayside, Haywards Heath Road, Balcombe, West Sussex

Two new houses are proposed to be built on land adjacent to Wayside, Haywards Heath Road, Balcombe. Drawing No. 20024-PA-005 by Lomex Architects gives details of the site plan. A new property – Upper Stumbles has already been built on the site and the ground level for House No. 2 has been reduced in level by up to 1.2m on the eastern boundary. The location of House 1 is partially obstructed by a bank of soil screening the garden to Robinshaw Bungalow. There is also a large Sequoia tree growing about 10m from the location of this house.

The 1/50,000 geological map, Sheet 302, indicates the area to be underlain by the Upper Grinstead Clay (Grid Reference TQ 314 300). To explore the site a number of hand augered boreholes were drilled on 10th July 2025. Borehole No. 2 was in an area where the ground level had been reduced considerably and the shaley clay proved to be too hard to auger. The position of Borehole No. 3 was covered with a band of earth and no borehole could be drilled.

Generally, the site was underlain by a brown grey friable clay with very stiff grey and dark brown clay at depth. The soil profile could be seen in the exposed slope on the eastern boundary of the site.

The clays classified as soils with an intermediate to very high plasticity with a plasticity index of 25 to 54 percent. The NHBC Specifications Chapter 4.2 define soils with a plasticity index above 40 percent to be at a high risk of seasonal drying shrinkage.

House 2

The clay in this area was of a medium shrinkability and was of a very stiff consistency. A Perth Penetrometer Test in Borehole No. 1 gave an 'N' value of 24 blows / 300mm at a depth of 0.65m to 1.05m. It is proposed House 2 be founded on 1m deep trench fill footings and that a nett allowable bearing capacity of 150 KN/m² be adopted for the design of the foundations. Generally, the footings for this house may be of a minimum practicable width.

House 1

The clay in the area of House 1 was of a high shrinkability and a semi-mature tree, believed to be a Sequoia, was growing close to the proposed house. These trees are of a medium water demand and may grow to a height of 40m or more. To comply with the NHBC Specifications Chapter 4.2, it is likely that foundations possibly as deep as 2.0m will be required.

Given the presence of the tree, it is proposed that House 1 be founded on a 'Pad and Beam' system as the depth of the pads may be adjusted with distance from the tree. The clay became very stiff with depth and a nett allowable bearing capacity of 200 KN/m² may be adopted for the design of the foundations.

The site at the rear of Wayside, Haywards Heath Road, Balcombe proved to be underlain by very stiff clay of the Upper Grinstead Clay age. Where the ground level had been reduced, the clay became shaley and too hard to drill hand augered boreholes. The plasticity index of the clay varied widely across the site and the soils were of a medium shrinkability for House 2 and high shrinkability in the vicinity of House No. 1. A large fir tree was present about 10m away from House 2.

It is recommended that House 2 be founded on 1.0m deep mass concrete trench fill footings and that House 1 be founded on a 'Pad and Beam' construction. Piled foundations for this house may be considered as an alternative, however a deep borehole will be required to give data to design the piles.

Yours sincerely,

(W K Elson)
PhD, CEng, MICE

APPENDIX

**Wayside, Haywards Heath Road, Balcombe,
West Sussex.**

Laboratory Test Results

Water Content

Borehole No	1	1	4	4	4
Depth (m)	0.50	0.85	0.50	1.00	1.50
Water content (%)	16.2	19.6	16.9	20.8	33.3

Atterberg Limits

Sample reference	Liquid limit (%)	Plastic limit (%)	Plasticity index (%)	Soil classification
BH 1 0.85m	47	22	25	CI
BH 4 1.50m	85	31	54	CV