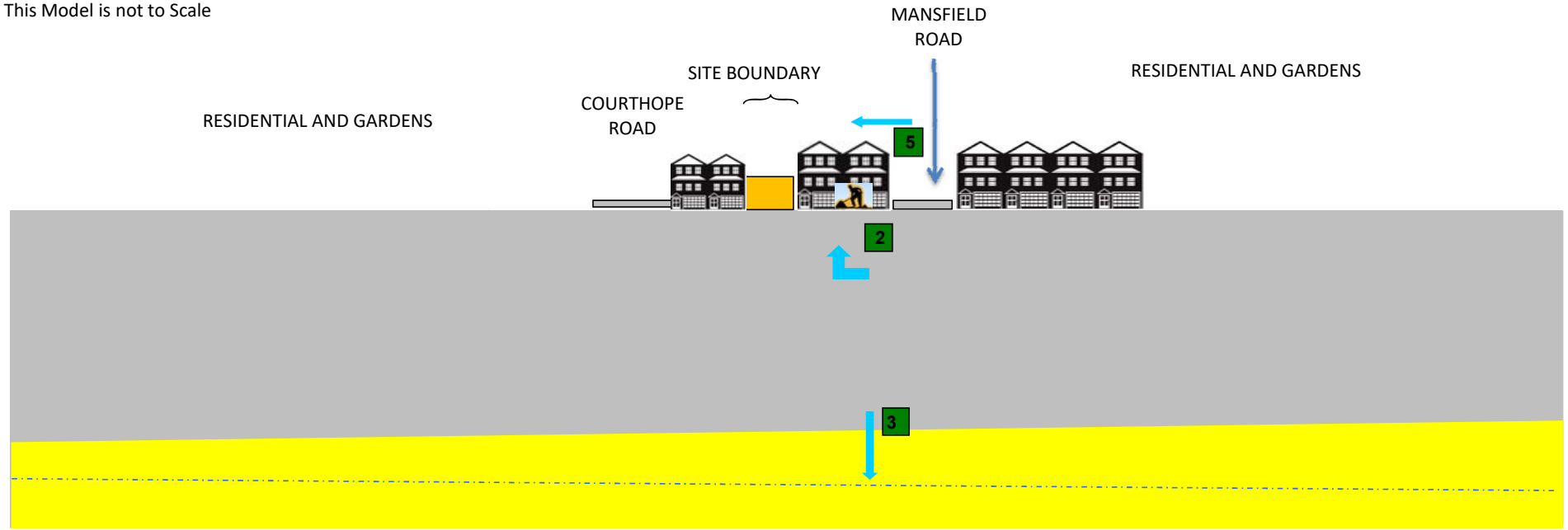
Appendix **F**

Ashton Bennett
ENGINEERING GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

Land at 2B Courthope Road, Camden
Conceptual Model

This Model is not to Scale



SOURCES	PATHWAYS	RECEPTORS	RISK
HISTORICAL USE AS OPENLAND CURRENT USE AS FORMER ELECTRICITY SUB STATION OFF SITE RESIDENTIAL	1 Inhalation of vapours from landfill/mining	Workmen / Future site users / adjacent land uses	Low No landfill within 250m. No Radon.
	2 Ingestion and or skin contact	Workmen / Future site users / occupants /adjacent land uses	Low - site tested to be uncontaminated
	3 Ingestion of drinking water / leaching to groundwater	Groundwater.	Low - No abstractions within 2000m
	4 Leaching to surface water	No surface water within 250m of site	Low - no surface water within 500m of site
	5 Inhalation of dust	Workmen / adjacent land users	Low - Appropriate measures during construction
	6 Slope Failure	Future land users	Low - No slopes within 250m
	7 Off site migration	Neighbouring land users.	Low - neighbouring land is residential since 1894

GEOLOGY

- MADE GROUND
- LONDON CLAY
- THANET SAND AND CHALK

Drg. No. DMS 3343

Ground Movements for 2B Courthope Road, London

Taking height of adjacent house as H=10m and width of terrace as L=15m

Then L/H=1.5

Depth of basement excavation to No 5 take as 3.0m. Depth of walls 3.0m.

Horizontal movement due to installation of wall

0.05% x 3000mm = 1.5mm

Distance to negligible movement 1.5 x 3000mm = 4500mm

Horizontal movement due to excavation

0.15% x 3000mm = 4.50mm

Distance to negligible movement 4 x 3000mm =12,000mm

Maximum horizontal movement is 6.00mm (1.50+4.50mm)

Horizontal strain over 15.0m is 6.0mm /15,000mm x100 = 0.04%

Vertical movement due to installation of wall

0.05% x 3000mm = 1.50mm

Distance to negligible movement 1.5 x 3000mm = 4500mm

Vertical movement due to excavation

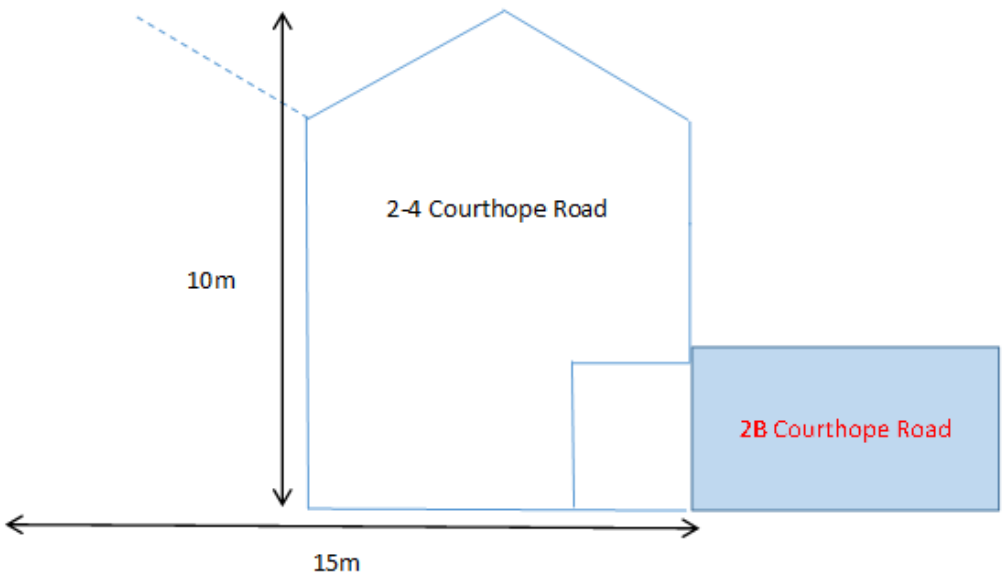
(0.10% x 3000mm = 3.00mm from Table 2.4)

Instead use Fig 2.11(b) which is more accurate and shows 0.05% at the wall, 0.1% is never reached by the curve or the measured ground movements, so 0.05% is conservative.

0.05% x 3000mm = 1.50mm

Distance to negligible movement 3.5 x 3000 = 10500mm

Maximum vertical movement is 4.50mm(3.00+1.50)



House slope calculated as (max vert settl /10.5(distance from wall -0)

By plotting house slope for full 10.5m distance of strain the maximum deflection (total vert settlement minus house slope) calculated is 0.60mm at 7m distance from the party wall. Therefore take 0.60mm for deflection to be conservative.

Deflection/length = -0.60/10500= -0.005714

Deflection/length/Elim for Category 0 = -0.005714 / 0.05 = 0.114

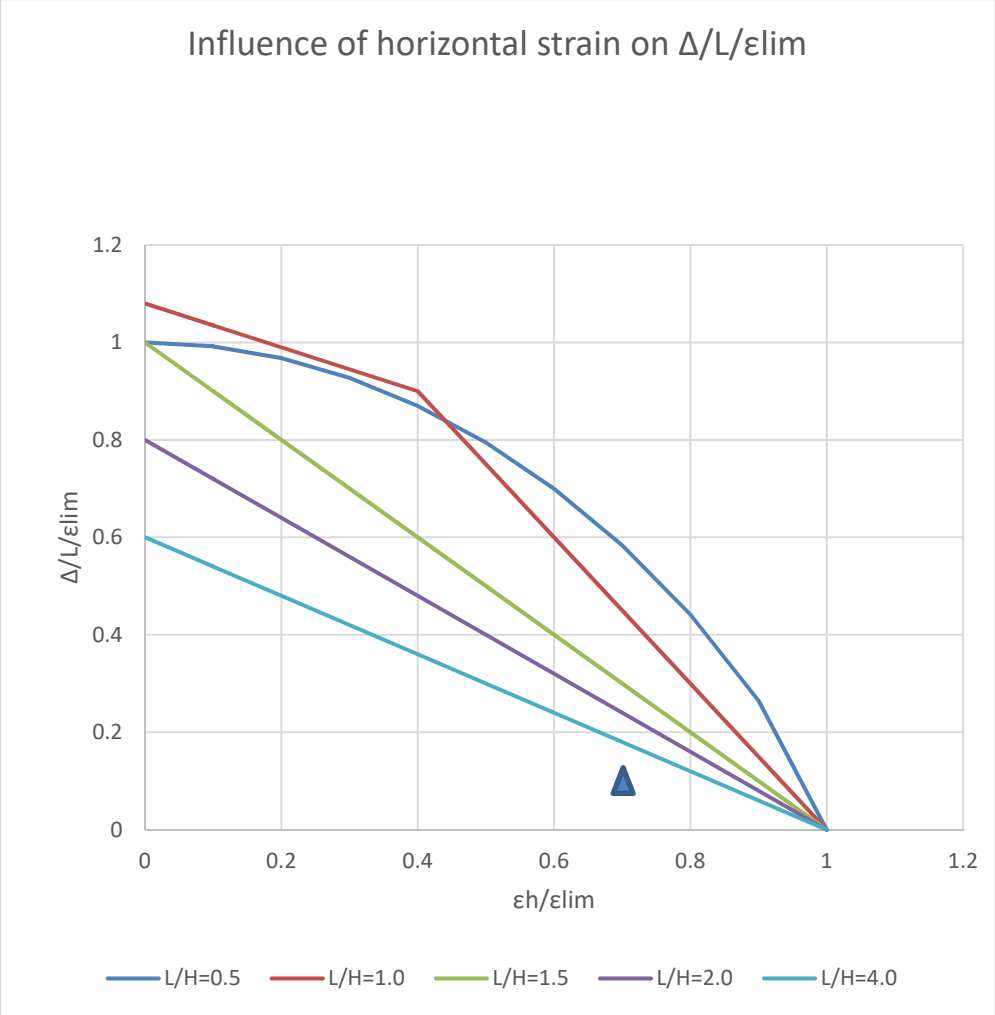
Horizontal strain/Elim for Category 0 = 0.051282 / 0.05 = 1.02

Deflection/length/Elim for Category 1 = -0.005714 / 0.075 = 0.076

Horizontal strain/Elim for Category 1 = 0.051282 / 0.075 = 0.683

Plotting the results on CIRIA 580 Fig 2.18b for Category 0, the results fall above 1 and therefore the results for Category 1 are plotted which fall below L/H=1.5 as required.

Therefore anticipated Damage Category according to C580 Table 2.5 is very slight.


Influence of horizontal strain on Δ/L/εlim
1.2
1
0.8
0.6
0.4
0.2
0
Δ/L/εlim
0
0.2
0.4
0.6
0.8
1
1.2
εh/εlim
L/H=0.5
L/H=1.0
L/H=1.5
L/H=2.0
L/H=4.0