Title: 5 Upper Hagg, Holmfirth

Date: Oct 26

(1) Check log suppt beams at orignal external wall line (now internal)

Design loadings

Pitched log

dead - Stone slates = 1.20 kN/m²
Cell + battens = 0.13 "
Rafters = 015 "
Ceilg, services, insulation = 0.25 "
1.73 kN/m²

Imposed 0.60 "
2.33 kN/m²

Factored loads

x1.4 = 2.42 kN/m²
x1.6 = 0.96 "
3.38 kN/m²

2N° 178 x 102 x 19 UB's installed.
Maximum span: 1.99 say 2.0m

Factored load: 3.38 x 2.0 x (3.6/2 + 1.4/2) = 16.9
Say 17K

RN = 8.5K

BM = 17 x 2.0/8 = 4.3K

178 x 102 x 19 UB

Installed beams 178 x 102 x 19 UB's supporting original + new roof adequate

Effective length (conservative) = 1.4(2.0 + 2x0.178) = 3.3m

Mb @ 3.3m: 23 kN > 4.3 kN O.K

Check deflection unfactored load: 11.7 say 12K

I reqd: 2.23 x 12 x 2.0² = 107 cm⁴

I provided: 1360 cm⁴ > 107 cm⁴ O.K

Check bearing onto masonry Factored reaction: 8.5K

- 150mm bearing onto wall/pier each end

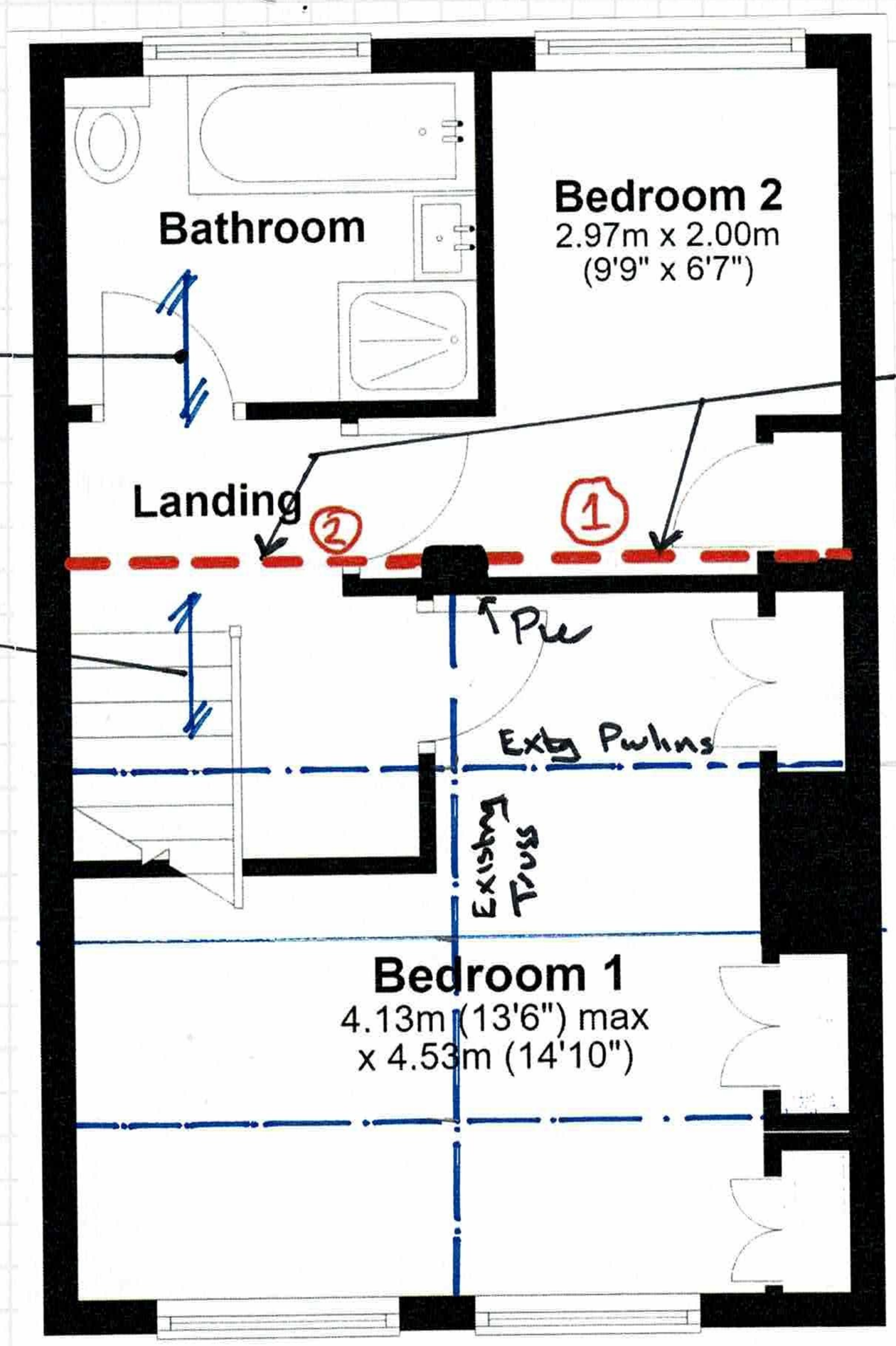
Bearing stress under bottom flange = $\frac{8.5 \times 10^3}{150 \times 102}$

= 0.56 n/mm² - Low O.K

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SK 1



FIRST FLOOR PLAN (N.T.S)

- Showing beams over supporting roof rafters.