project

project ref 212363

section no. Sheet no. revision

11

client

by jh checked date 3/19

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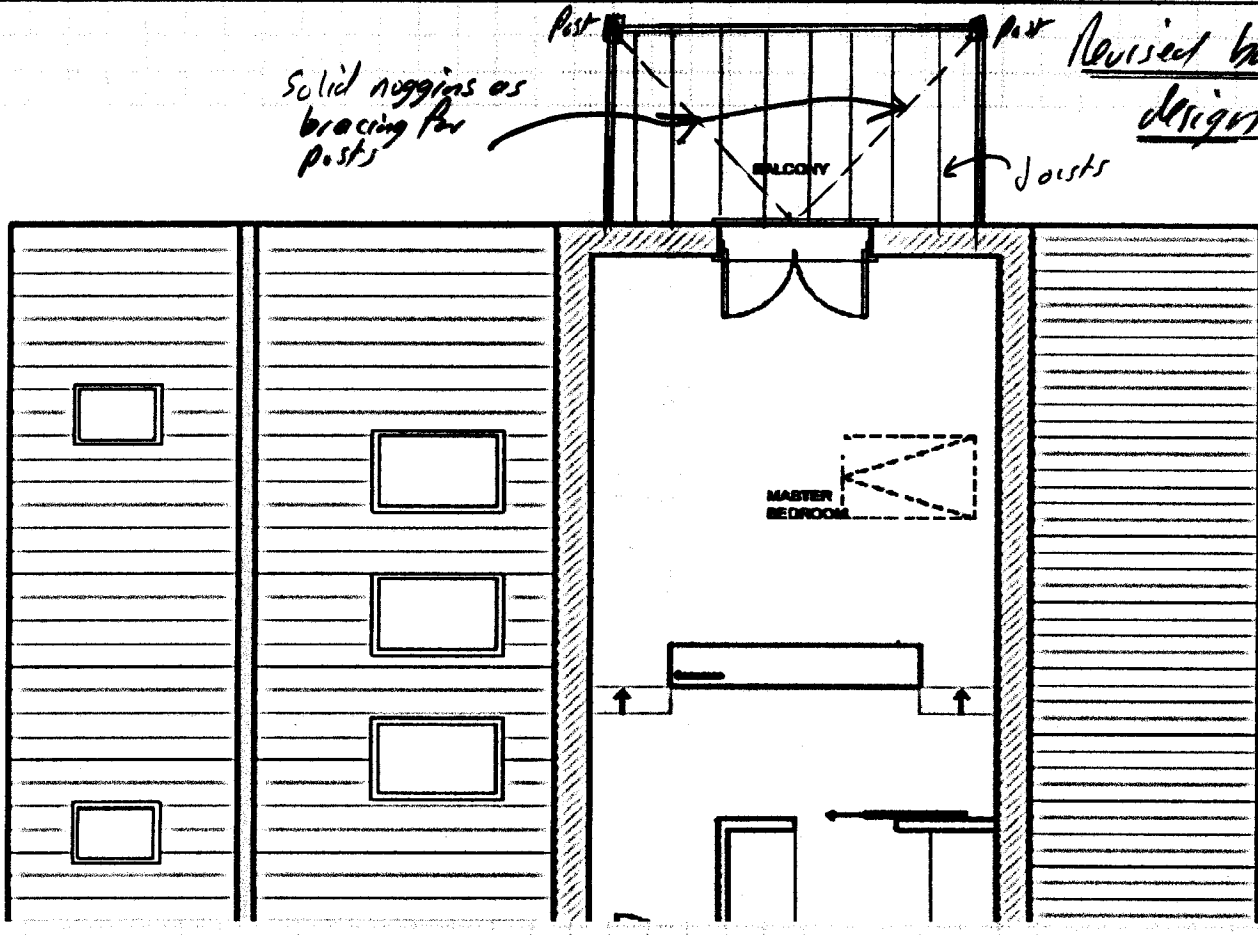

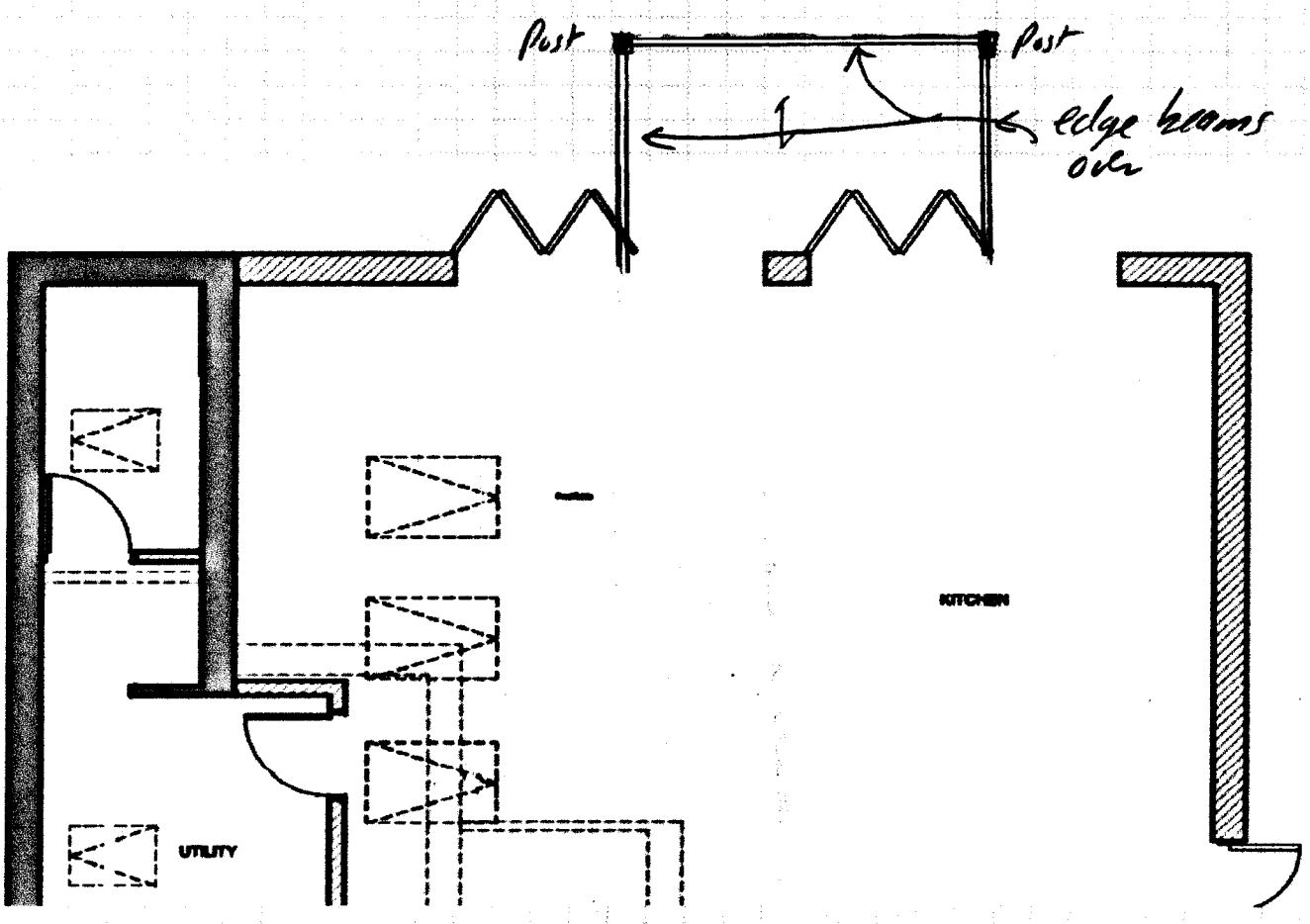

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Revised balcony (cont)

W = 2.5/m² x .4 = 1/m
span = 2.5
m = 1.8 kNm

Zx = 1.8x10⁶ / 5.3x1.1x0.8 = 171x10³
Ix (Emean, wet) = 9.6x10⁶

@ 500 w d = 143/132

W = (2.5/m² x 2.5/2) + 0.4 = 3.4/m

span = 3.4
m = 4.9 kNm

Zx = 4.9x10⁶ / 7.5x1.1x.8 = 742x10³
Ix (E2 wet) = 88x10⁶

@ 100 w d = 211/219

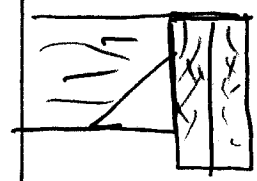
150x 90 PFC t/t = 117 D/T = 12.5
Pbc = 142 mA = 27.1 OK

Joists

50 x 150 C24 @
400 c/c

Edge beams

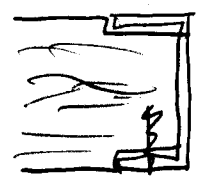
Each
2/50x225 C24
bolted together
with M12 bolts
@ 600 c/c



section

OR

150 x 90 PFC



section

build into house wall
min 100 mm

CCL CS 01.19

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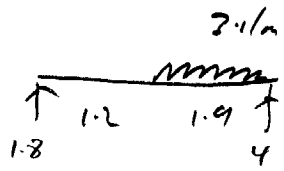
$V = 3.4 \times 3.4/2 = 5.8$ kN

C 100×100 c/a = 1.58 N/mm² OK by I

90×90×5.0 RHS SWC = >108 OK

Base area req = $\frac{5.8}{100} = .058 m^2 \equiv 241 D$

additional load = $2.5 kN/m^2 \times 2.5/2 = 3.1 kN/m$



M = 2.7 kNm
$I_x = 139 cm^4$

$\Sigma M = 58 + 2.7 = 60.7 < 77.7$ OK.
$\Sigma I_x = 2786 + 139 = 2925 < 4564$ OK.

$\Sigma R_A = 52 + 1.8 = 53.8$ ∴ 1 = 269 < 300

Revised balcony (cont)

Corner posts

if timber edg beam used, use 100×100 C16 post if steel edge beam used, use 90×90×5.0 RHS post

min foundation size = 450×450×200 thick

Check beams A→C & C→E for change in loading

Previous design still OK