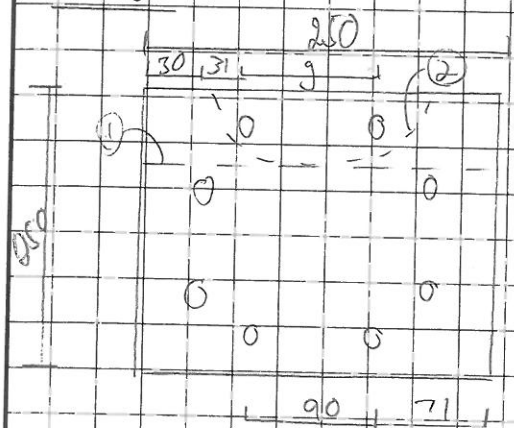
Job [redacted]

Proj

Subject CONNECTION CHECK Date 06/11/18

PLS



$M_y^* = -0.65$ kNm

$M_x^* = 0.04$ kNm

FROM MOMENT CONNECTION HANDBOOK

(vii) $l_{eff} = \left(\frac{b_f}{2}\right) + 250_x + 125$ mm

(viii) $l_{eff} = 2m_x + 0.625 e_x + g/2$

$= 2(31) + 0.625(30) + 90/2$

$= 125.75$ mm

(x) $l_{eff} = 4m_x + 1.25 e_x$

$= 4(31) + 1.25(30)$

$= 161.5$ mm

$M_c = \frac{\phi (l_{eff})(t)^2 (f_y)}{4}$

$= \frac{0.9(125)(10)^2(250)}{4}$

$= 0.703$ kNm

$T_c = \frac{0.703 \text{ kNm}}{0.031 \text{ m}}$

$= 22.67$ kN

(22.6 kN NEEDED IN BOLT TO CAUSE M_c IN PLATE)

FORCES FROM SC:

Tension in bolts due to moments applied to connection

Checked .....

Job [redacted]

Proj

Sub

$T_x = \frac{0,65}{0,045}$

$= 14,4$ kN/mm/2

$= 7,22$ kN ▽

$T_y = \frac{0,04}{0,076}$

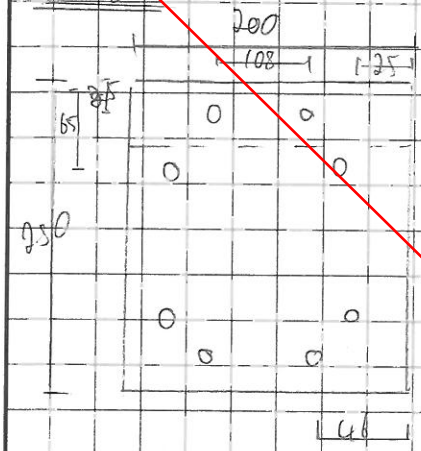
(2 BOLTS TAKING FORCE) $= 0,526$ kN/2

$= 0,265$ kN

$\approx 7,48$ kN IN BOLT

∴ OK

PL 2



x

y

(V = 1 , M = 1)

$M_x^* = -0,03$ kNm

$M_y^* = 2,23$ kNm

$b_{eff} = \frac{200}{2} = 100$ mm

$M_x = \frac{0,9(b_{eff})(t)^2(f_y)}{4}$

$= \frac{0,9(100)(10)^2(250)}{4}$

$= 0,375$ kNm

$T_R = \frac{0,375}{0,065}$

$= 5,76$ kN/m

(TENSION NEEDED FOR PLATE TO FAIL)

Checked .....