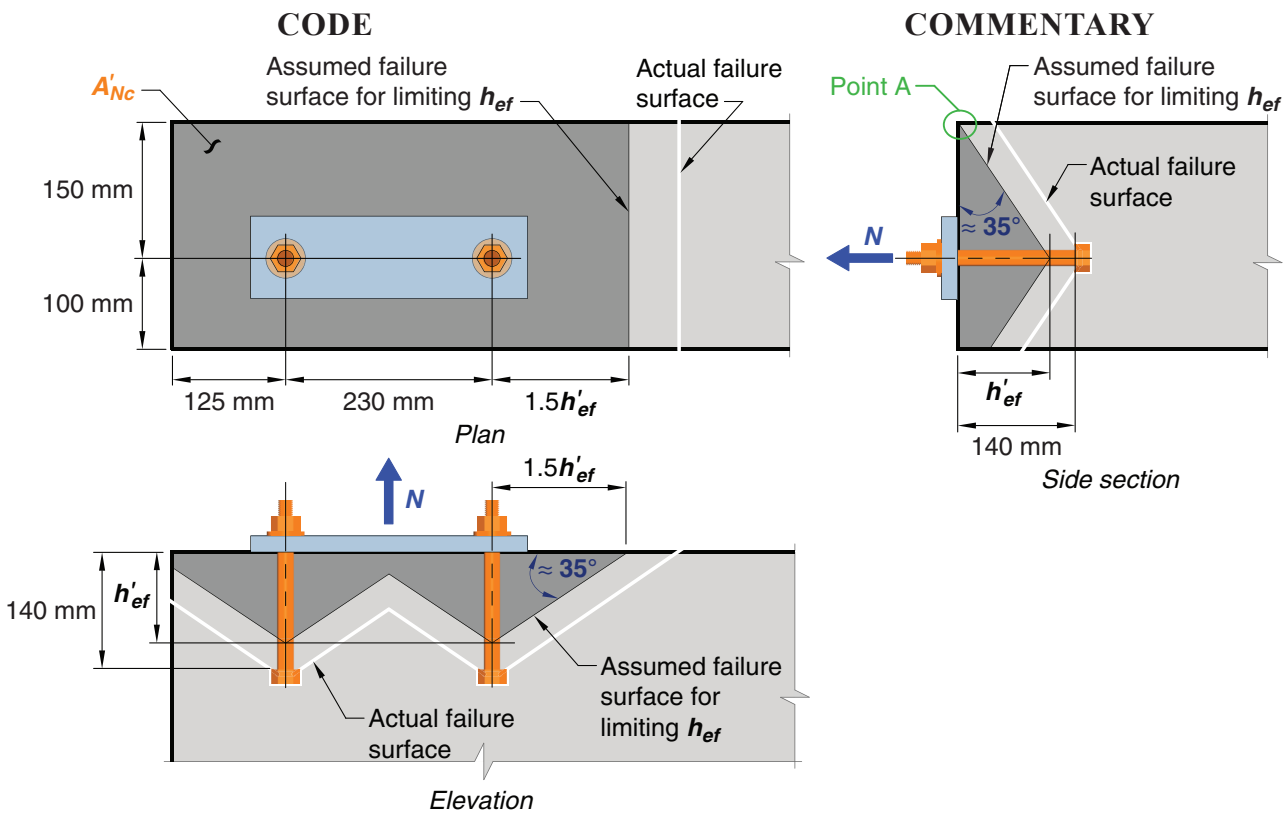

The actual h_{ef} = 140 mm but three edges are ≤ 1.5h_{ef} therefore the limiting value of h_{ef} (shown as h'_{ef} in the figure) is the larger of $c_{a,max}$/1.5 and one-third of the maximum spacing for an anchor group:
h'_{ef} = max [(150 mm)/1.5, (230 mm)/3)] = 100 mm

Therefore, use h_{ef} = 100 mm for the value of h_{ef} in equations 17.6.2.1 through 17.6.2.5 including the calculation of A'_{Nc}:
A'_{Nc} = (150 mm + 100 mm)(125 mm + 230 mm + 1.5 x 100 mm) = 126,250 mm^2

Point A shows the intersection of the assumed failure surface for limiting h_{ef} with the concrete surface.

***Fig. R17.6.2.1.2**—Example of tension where anchors are located in narrow members.*

17.6.2.1.3 If an additional plate or washer is added at the head of the anchor, it shall be permitted to calculate the projected area of the failure surface by projecting the failure surface outward **1.5h_{ef}** from the effective perimeter of the plate or washer. The effective perimeter shall not exceed the value at a section projected outward more than the thickness of the washer or plate from the outer edge of the head of the anchor.

17.6.2.1.4 A_{Nco} is the projected concrete failure area of a single anchor with an edge distance of at least **1.5h_{ef}** and shall be calculated by Eq. (17.6.2.1.4).

$$A_{Nco} = 9h_{ef}^2 \qquad (17.6.2.1.4)$$

17.6.2.2 *Basic single anchor breakout strength*, N_b

17.6.2.2.1 Basic concrete breakout strength of a single anchor in tension in cracked concrete, N_b, shall be calculated by Eq. (17.6.2.2.1), except as permitted in 17.6.2.2.3

$$N_b = k_c \lambda_a \sqrt{f'_c}\, h_{ef}^{1.5} \qquad (17.6.2.2.1)$$

R17.6.2.2 *Basic single anchor breakout strength*, N_b

R17.6.2.2.1 The equation for the basic concrete breakout strength was derived assuming concrete breakout with an angle of approximately 35 degrees, considering fracture mechanics concepts (Fuchs et al. 1995; Eligehausen and Balogh 1995; Eligehausen and Fuchs 1988; *fib* 2011).

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