

$$\text{max} = \sqrt{0.25 + 3 \cdot 55 \times 0.026^2}$$

$$= \cancel{2.05 \text{ units}} \quad 0.502$$

$$b) A = \frac{1}{2}(A+B+CD) \times h$$

$$+ \frac{1}{2}(OD^2 \left(\frac{\pi}{3} - \sin \frac{\pi}{3} \right))$$

$$= \frac{1}{2}(4x + x) \times \cancel{2.04} \quad 0.502$$

$$+ \frac{1}{2}x^2 \left(\frac{\pi}{3} - \frac{\sqrt{3}}{2} \right)$$

$$x = 0.0265 \text{ from a)}$$

$$\therefore \frac{1}{2}(5 \times 0.0265) \times \cancel{2.04} \quad 0.502$$

$$+ \frac{1}{2} \times 0.0265^2 \left(\frac{\pi}{3} - \frac{\sqrt{3}}{2} \right)$$

$$= 0.03326 + 0.0000636$$

$$= 0.03332 \text{ m}^2$$